

ORDER NO. MD0311472C1

B12

Service Manual

DVD/CD Player



DVD-F87P / DVD-F87PC /
Colour
(K)... Black Type
(S)... Silver Type



SPECIFICATIONS

Specification

Using navigation menus



Playing data discs **WMA** **MP3** **JPEG** **CD** (CD-text only)

WMA **MP3** **JPEG**

You can play JPEG files on DVD-RAM or play HighMAT discs without using the HighMAT function (→ page 11, "Play as Data Disc" in Other Menu).

■ Using playback menus (except JPEG files on DVD-RAM)

While the menu is displayed

Press [**▲ ▼**] to select "All", "Audio", or "Picture" and press [**ENTER**].

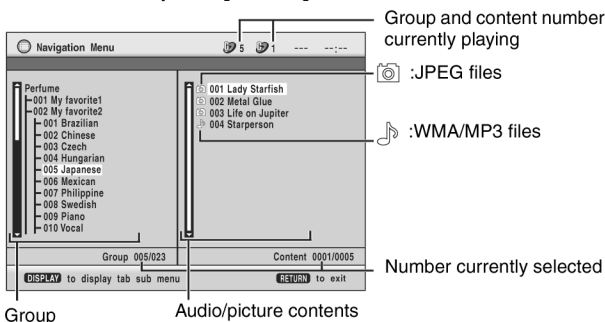
● To display/exit the screen

Press [**TOP MENU**].

■ Using navigation menus

1 Press [**MENU**].

2 Press [**▲ ▼ ◀ ▶**] to select the group or audio/picture content and press [**ENTER**].



● To enjoy listening to WMA/MP3 contents while showing a JPEG image on the screen

Select a JPEG file first, and then select tracks.

(The opposite order is not effective.)

● To exit the screen

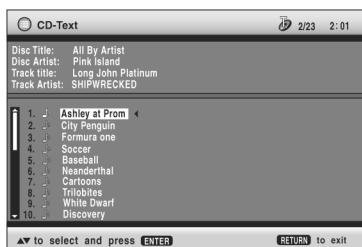
Press [**MENU**].

To use the contents screen to find a track

CD (CD-text only)

While the menu is displayed

Press [**▲ ▼**] to move through the tracks and press [**ENTER**].



● Press [**ANGLE/PAGE**] to skip 10 lines at a time.

Using the submenu **WMA** **MP3** **JPEG**

1 While the menu is displayed, press [**DISPLAY**]

✓Multi	Groups and content
List	Contents only
Tree	Groups only
Thumbnail	Thumbnail images JPEG
Next group	To go to next groups WMA MP3
Previous group	To go to previous groups WMA MP3
All	WMA/MP3 and JPEG files
Audio	WMA/MP3 files only
Picture	JPEG files only
Help display	To switch between guide messages and the elapsed play time indicator
Find	To search by content or group title (→ see below)

2 Press [**▲ ▼**] to select the submenu and press [**ENTER**].

■ Searching by content or group title **WMA** **MP3** **JPEG**

Place the cursor on the group title to search a group, or place the cursor on the content title to search contents.

1 Select "Find" (→ see above).



2 Press [**▲ ▼**] to select a character and press [**ENTER**].

● Repeat to enter another characters.

● Lower case is also searched.

● Press [**◀ ▶**] to skip between A, E, I, O and U.

● Press [**◀**] to erase a character.

● Erase the asterisk (*) to search for the titles starting with that character.

3 Press [**▶**] to select "Find" and press [**ENTER**].

The search result screen appears.

4 Press [**▲ ▼**] to select the content or group and press [**ENTER**].

Tips for making WMA/MP3 and JPEG discs (For CD-R/CD-RW)

● Discs must conform to ISO9660 level 1 or 2 (except for extended formats).

● This unit is compatible with multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.

Naming folders and files

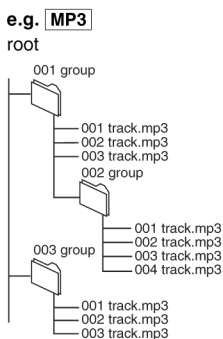
At the time of recording, prefix folder and file names with 3-digit numbers in the order you want to play them (this may not work at times).

Files must have the extension:

“.WMA” or “.wma”

“.MP3” or “.mp3”

“.JPG”, “.jpg”, “.JPEG” or “.jpeg”



WMA

● You cannot play WMA files that are copy protected.

MP3

● This unit is not compatible with ID3 tags.

● Compatible sampling rate: 8, 11.02, 12, 16, 22.05, 24, 32, 44.1, and 48 kHz

JPEG

● To view JPEG files on this unit:

– Take them on a digital camera that meets the DCF Standard (Design rule for Camera File system) Version 1.0. Some digital cameras have functions that are not supported by the DCF Standard Version 1.0 like automatic picture rotation which may render a picture unviewable.

– Do not alter the files in any way or save them under a different name.

● This unit cannot display moving pictures, MOTION JPEG and other such formats, still pictures other than JPEG (e.g. TIFF) or play associated sound.

Basic play



1 Power ON.


2 Open the drawer and place the disc(s).

- Load double-sided discs so the label for the side you want to play is facing up.
- To load discs on the other trays, press [DISC SKIP] on the main unit.
- Play will start from the disc in the front-left position.

3 Close the drawer.
 The disc indicators light when there are discs in the trays.

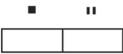
4 Start play.


When the disc finishes playing
If the next disc doesn't start playing, select the disc.

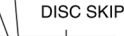
Press to skip.
Press and hold to
-search.
-slow-motion.

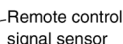

DVD-F87 only
 Press to enter the number (→ below).

1	2	3	4	5	≥10
6	7	8	9	0	CANCEL

Stop **Pause**


Disc select buttons/indicators


DISC SKIP


Remote control signal sensor


Stop


The position is memorized when "▷" flashes on the display.
 • Press [▶] (PLAY) to resume.
DVD-V To review the previous chapters (→ page 14, Position memory)
 • Press [■] to clear the position.

Pause


• Press [▶] (PLAY) to restart play.

Skip


(Group skip **WMA** **MP3** **JPEG**)

Search
 (during play)
Slow-motion
 (during pause)


• Up to 5 steps
 • Press [▶] (PLAY) to start play.
 • **VCD** Slow motion, forward direction only

Frame-by-frame
 (during pause)


• **VCD** forward direction only

On-screen item select


Select
Register

Enter number


Disc menu


DVD-A **DVD-V**
Shows a disc top menu

DVD-V
Shows a disc menu

VCD
Shows a disc menu

Return to previous screen


Main unit display


Number display
↑
Time display

Information screen


WMA **MP3** **JPEG**
Turns the information screen on/off

Note

- "D.MIX" on the display indicates that a multi-channel soundtrack can be down-mixed to two channels.
- Discs continue to rotate while menus are displayed. Press [■] when you finish to preserve the unit's motor and your television screen.

If you are experiencing problems, refer to troubleshooting

Asia, Australia and N.Z.

Standby/on switch (⏻/⏻)

Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

Standby/on indicator (⏻)

When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.

Disc	Logo	Indication in these operating instructions	Remarks	
DVD-RAM		RAM	Recorded using Version 1.1 of the Video Recording Format (a unified video recording standard).	- Recorded with DVD video recorders, DVD video cameras, personal computers, etc. - Remove discs from their cartridges before use.
		JPEG	Recorded using the DCF (Design rule for Camera File system) standard.	- Recorded with Panasonic DVD-Video recorders - To play JPEG files, select "Play as Data Disc" in Other Menu (→ page 11).
DVD-Audio		DVD-A	—	
		DVD-V	Some DVD-Audio discs contain DVD-Video content. To play DVD-Video content, select "Play as DVD-Video" in Other Menu (→ page 11).	
DVD-Video			—	
DVD-R		DVD-V	Panasonic DVD-R recorded and finalized* on a Panasonic DVD-Video recorders or DVD-Video cameras are played as DVD-Video on this unit.	
Video CD		VCD	—	
SVCD			Conforming to IEC62107	
CD		CD	This unit is compatible with HDCD. HDCD-encoded CDs sound better because they are encoded with 20 bits, as compared with 16 bits for all other CDs. During HDCD play, "HDCD" lights on the unit's display.	
CD-R CD-RW	—	WMA MP3 JPEG CD VCD	- This unit can play CD-R/RW (audio recording disc) recorded with the formats on the left. Close the sessions or finalize* the disc after recording. HighMAT discs WMA, MP3 or JPEG files only. To play without using the HighMAT function, select "Play as Data Disc" in Other Menu (→ page 11).	

*A process that allows play on compatible equipment.

• It may not be possible to play the above discs in all cases due to the type of disc or condition of the recording.

■ Discs that cannot be played

DVD-ROM, CD-ROM, CDV, CD-G, DVD+R, +RW, DVD-RW, SACD, Divx Video Discs and Photo CD, DVD-RAM that cannot be removed from their cartridge, 2.6-GB and 5.2-GB DVD-RAM, and "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

■ Audio format of DVDs

You can play discs with these symbols.



■ To prevent damage

- Do not;
 - load more than one disc per tray.
 - touch the drawer or the carousel while they are in motion
 - rotate the carousel by hand.
 - close the drawer by hand.

■ To clean discs

DVD-A **DVD-V** **VCD** **CD**

Wipe with a damp cloth and then wipe dry.

RAM **DVD-R**

- Clean with an optional DVD-RAM/MP disc cleaner (LF-K200DCA1, where available).
- Never use cloths or cleaners for CDs etc.



■ Disc handling precautions

- Do not attach labels or stickers to discs (This may cause disc warping, rendering it unusable).
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not use scratch-proof protectors or covers.
- Do not use the following discs:
 - Discs with exposed adhesive from removed stickers or labels (rented discs etc).
 - Discs that are badly warped or cracked.
 - Irregularly shaped discs, such as heart shapes.



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Maintenance

Clean this unit with a soft, dry cloth.

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, read the instructions that came with the cloth carefully.

Language code list

Abkhazian: 6566	Chinese: 9072	Hausa: 7265	Lithuanian: 7684	Romanian: 8279	Telugu: 8469
Afar: 6565	Corsican: 6779	Hebrew: 7387	Macedonian: 7775	Russian: 8285	Thai: 8472
Afrikaans: 6570	Croatian: 7282	Hindi: 7273	Malagasy: 7771	Samoan: 8377	Tibetan: 6679
Albanian: 8381	Czech: 6783	Hungarian: 7285	Malay: 7783	Sanskrit: 8365	Tigrinya: 8473
Ameharic: 6577	Danish: 6865	Icelandic: 7383	Malayalam: 7776	Scots Gaelic: 7168	Tonga: 8479
Arabic: 6582	Dutch: 7876	Indonesian: 7378	Maltese: 7784	Serbian: 8382	Turkish: 8482
Armenian: 7289	English: 6978	Interlingua: 7365	Maori: 7773	Serbo-Croatian: 8372	Turkmen: 8475
Assamese: 6583	Esperanto: 6979	Irish: 7165	Marathi: 7782	Shona: 8378	Twi: 8487
Aymara: 6588	Estonian: 6984	Italian: 7384	Moldavian: 7779	Sindhi: 8368	Ukrainian: 8575
Azerbaijani: 6590	Faroese: 7079	Japanese: 7465	Mongolian: 7778	Singhalese: 8373	Urdu: 8582
Bashkir: 6665	Fiji: 7074	Javanese: 7487	Nauru: 7865	Slovak: 8375	Uzbek: 8590
Basque: 6985	Finnish: 7073	Kannada: 7578	Nepali: 7869	Slovenian: 8376	Vietnamese: 8673
Bengali; Bangla: 6678	French: 7082	Kashmiri: 7583	Norwegian: 7879	Somali: 8379	Volapük: 8679
Bhutani: 6890	Frisian: 7089	Kazakh: 7575	Oriya: 7982	Spanish: 6983	Welsh: 6789
Bihari: 6672	Galician: 7176	Kirghiz: 7589	Pashto, Pushto: 8083	Sundanese: 8385	Wolof: 8779
Breton: 6682	Georgian: 7565	Korean: 7579	Persian: 7065	Swahili: 8387	Xhosa: 8872
Bulgarian: 6671	German: 6869	Kurdish: 7585	Polish: 8076	Swedish: 8386	Yiddish: 7473
Burmese: 7789	Greek: 6976	Laotian: 7679	Portuguese: 8084	Tagalog: 8476	Yoruba: 8979
Byelorussian: 6669	Greenlandic: 7576	Latin: 7665	Punjabi: 8065	Tajik: 8471	Zulu: 9085
Cambodian: 7577	Guarani: 7178	Latvian, Lettish: 7686	Quechua: 8185	Tamil: 8465	
Catalan: 6765	Gujarati: 7185	Lingala: 7678	Rhaeto-Romance: 8277	Tatar: 8484	

Signal system:	NTSC
Operating temperature range:	+5 to +35°C (+41 to +95°F)
Operating humidity range:	5 to 90% RH (no condensation)
Disc played [8 cm (3") or 12 cm (5")]:	
(1)	DVD-RAM, (DVD-VR compatible, JPEG formatted discs)
(2)	DVD-Audio
(3)	DVD-Video
(4)	DVD-R (DVD-Video compatible)
(5)	CD-Audio (CD-DA)
(6)	Video CD
(7)	SVCD (Confirming to IEC62107)
(8)	CD-R/CD-RW (CD-DA, Video-CD, SVCD, MP3, WMA, JPEG formatted discs)
(9)	MP3/WMA*1 - Compatible compression rate: MP3: between 32 kbps and 320 kbps WMA: between 48 kbps and 192 kbps
(10)	JPEG*1 - Exif Ver 2.1 JPEG Baseline files - Picture resolution: between 320 x 249 x and 6144 x 4096 pixels (Sub sampling is 4:2:2 or 4:2:0)
(11)	HighMAT Level 2 (Audio and Image)
Video output:	
Output level:	1 Vp-p (75 )
Output terminal:	Pin jack (1 system)
S-video output:	
Y output level:	1 Vp-p (75 )
C output level:	NTSC; 0.286 Vp-p (75 )
Output connector:	S terminal (1 system)
Component video output:	
(NTSC: 480P/480i)	
Y output level:	1 Vp-p (75 )
PB output level:	0.7 Vp-p (75 )
PR output level:	0.7 Vp-p (75 )
Output connector:	Pin jack (Y:green, PB:blue, PR:red)
Number of connectors:	1 system
Audio output:	
Output level:	2 Vrms (1kHz, 0dB)
Output connector:	Pin jack
Number of connector:	5.1-channel discrete output (5.1 channel): 1 system
Audio performance:	
(1) Frequency response:	
 DVD (linear audio):	4 Hz-22 kHz (48 kHz sampling) 4 Hz-44 kHz (96 kHz sampling)

	DVD audio:	4 Hz-88 kHz (192 kHz sampling)
	CD audio:	4 Hz-20 kHz
(2)	S/N ratio:	
	CD audio:	115 dB
(3)	Dynamic range:	
	DVD (linear audio):	102 dB
	CD audio:	98 dB
(4)	Total harmonic distortion:	
	CD audio:	0.0025%
Digital audio output:		
	Coaxial digital output:	Pin Jack
Pickup:		
	Wave length:	665 nm/ 790 nm
	Laser power:	CLASS IIa/CLASS I
	Power supply:	AC 120 V, 60 Hz
	Power consumption:	10 W
	Dimensions:	430 (W) x 412.9 (D) x 68 (H) mm [16 15/16" (W) x 16 1/4" (D) x 2 11/16" (H)]
	Mass:	4.0kg (8.9 lb.)
Power consumption in standby mode: approx. 0.7 W		
Note:		
1. Specifications are subject to change without notice.		
Mass and dimensions are approximate.		

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WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

1. Safety Precautions

1.1. General Guidelines

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly

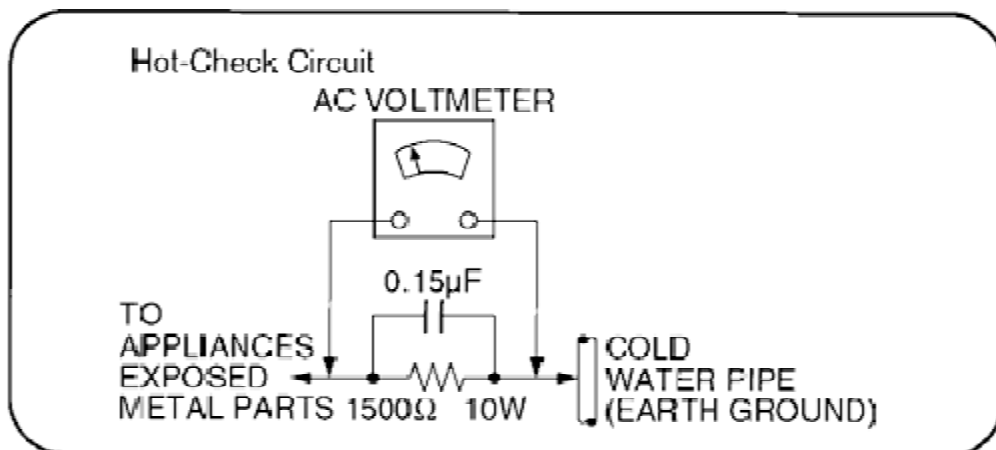
installed.

3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.1.1. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1\text{M } \Omega$ and $5.2\text{M } \Omega$. When the exposed metal does not have a return path to the chassis, the reading must be $\sim$.

Figure 1



1.1.2. Leakage Current Hot Check / (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5\text{k } \Omega$, 10 watts resistor, in parallel with a $0.15 \mu\text{F}$ capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 phms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.

5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is out of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

2. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C1011 , C1041 & C1083 through a 10 Ω , 5W resistor to ground.

DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent. Current consumption at AC 120V, 60Hz in NO SIGNAL mode should be ~215 mA .

3. Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminium foil, to prevent electrostatic charge build up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder remover device. Some solder removal devices not classified as “anti-static (ESD protected)”

can generate electrical charge to damage ES devices.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminium foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
Caution
Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by Δ in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

4. Handling the Lead-free Solder

4.1. About lead free solder (PbF)

Distinction of PbF P.C.B.:

P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

Caution:

- Pb free solder has a higher melting point than standard solder;
Typically the melting point is 50 - 70°F (30 - 40°C) higher. Please use a high temperature soldering iron. In case of soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°C).
- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).

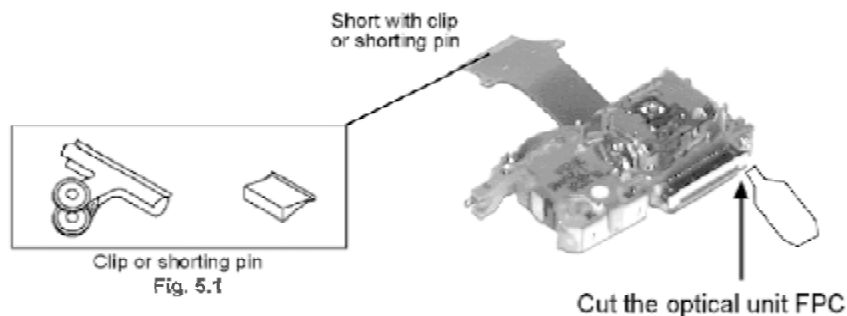
- When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.

5. Cautions to be taken when handling Optical Pickup

The laser diode used inside optical pickup could be destroyed due to static electricity as a potential difference is caused by electrostatic load discharged from clothes or human body. Handling the parts carefully to avoid electrostatic destruction during repair.

5.1. Handling Optical Pickup

1. Do not impact on optical pickup as the unit structurally uses an extremely precise technology.
2. Short-circuit the flexible cable of optical pickup remove from the circuit board using a short-circuit pin or clip in order to prevent laser diode from electrostatic destruction (Refer to Fig. 5.1 and Fig. 5.2)
3. Do not handle flexible cables forcibly as this may cause snapping. Handle the parts carefully (Refer to Fig. 5.1)
4. A new optical pickup is equipped with an anti-static flexible cable. After replacing and connecting to the flexible board, cut the anti-static flexible cable. (Refer to Fig. 5.1)



5.2. Cautions to be taken during replacement of Optical Pickup

Supplied optical pickup is equipped with a short clip found its flexible cable in order to prevent electrostatic destruction of laser diode. Before connection, remove the short clip, and check that the short land is opened. (Remove solder if the part is short-circuit).

5.3. Grounding for Preventing Electrostatic Discharge

1. Human body grounding

Use the anti-static wrist strap to discharge the static electricity accumulated in your body. (Refer to Fig. 5.2)

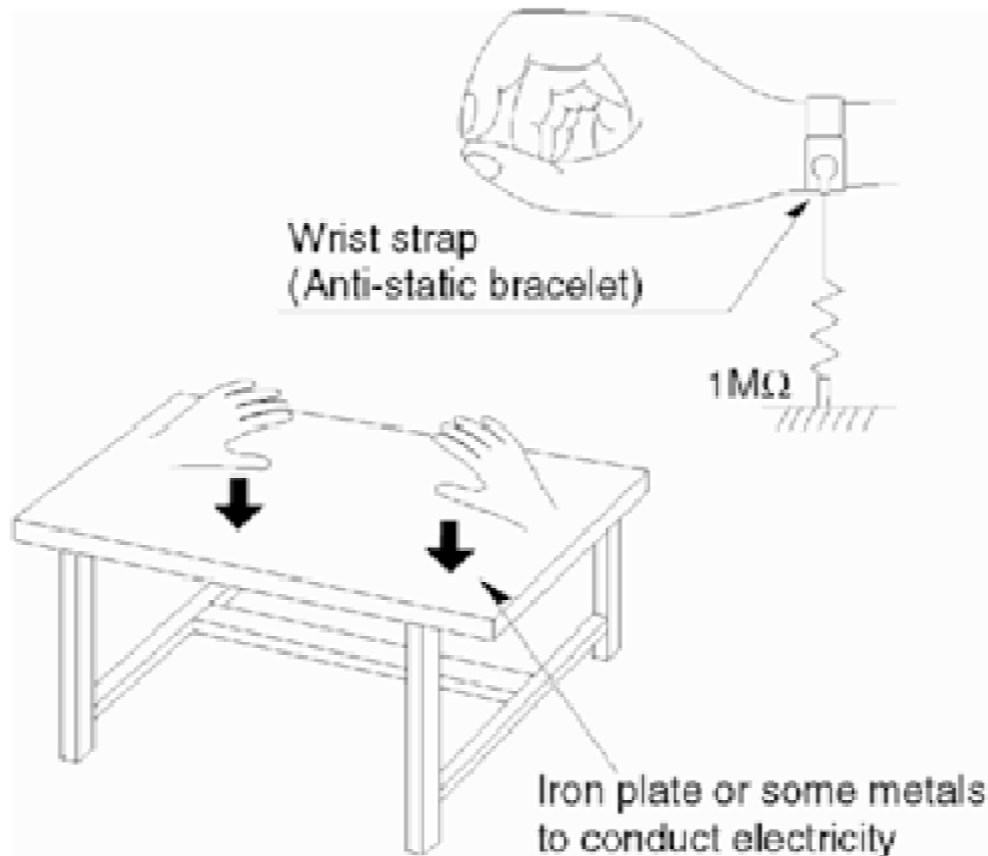
2. Work place grounding

Place a conductive material (conductive sheet) or ironboard where optical pickup is placed. (Refer to Fig. 5.2)

Note :

Keep your clothes away from optical pickup as wrist strap does not release the static electricity charged in clothes.

Fig. 5.2



6. Precaution of Laser Diode

CAUTION :

This unit utilizes a class 1 laser.

Invisible laser radiation is emitted from the optical pickup lens.

Wavelength: 665nm/790nm.

Maximum output radiation power from pickup: 100 μ W/VDE

When the unit is turned on :

1. Do not look directly into the pick up lens.
2. Do not use optical instruments to look at the pick up lens.

3. Do not adjust the preset variable resistor on the pickup lens.
4. Do not disassemble the optical pick up unit.
5. If the optical pick up is replaced, use the manufacturer's specified replacement pick up only.
6. Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION!

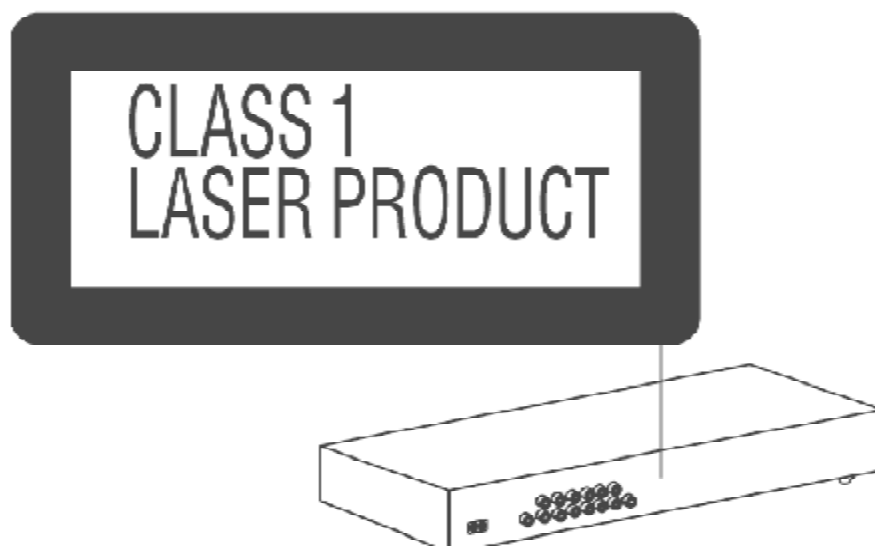
THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

■ Use of Caution Labels

CAUTION	- LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM.	FDA 21 CFR / Class II
CAUTION	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.	IEC60825-1 / Class 3b
VARNING	- SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.	
ADVARSEL	- SYNLIG OG OSYNLIG LASERSTRÅLING VED ÅBNING. UNNGÅ UDSÆTTELSE FOR STRÅLING.	
ADVARSEL	- SYNLIG OG OSYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES. UNNGÅ EKSPONERING FÖR STRÅLEN.	
VARO!	- AVATTRESSA OLEI ALTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.	
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.	
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.	
注意	- 打开时有可见及不可见激光辐射。避免激光照射。	
注意	- ここを開くと可視及び不可視レーザー光が出ます。 ビームを見たり、触れたりしないで下さい。 POLXS0054	

(Inside of product)



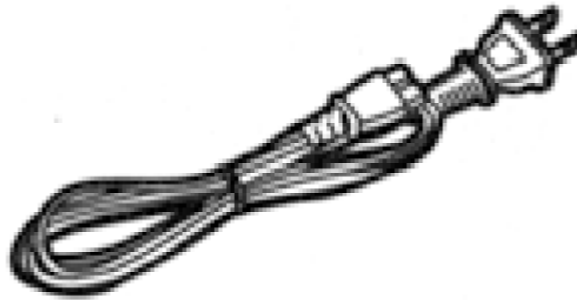
The laser product label has not been attached to products for the U.S.A. and Canada

7. Accessories

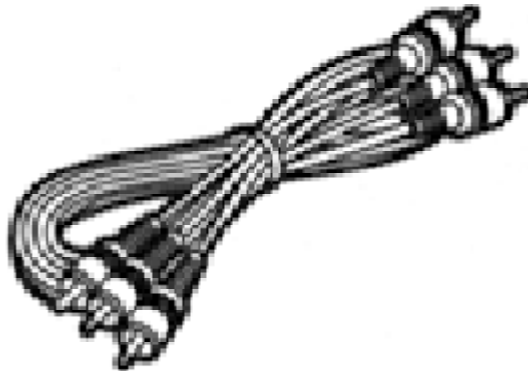
Remote control



AC power supply cord



Audio/video Cable



8. Operation Procedure

9. Disc information

10. About HighMAT

10.1. What is HighMAT?

This word combines the abbreviations of Matsushita Electric Industrial Co. Ltd. and High Performance Media Access Technology, and is a trademark of Microsoft Corporation. The

products with the HighMAT logo shown below are made according to the HighMAT standard. HighMAT is a format that allows users to save digital contents such as photographs, audio, and images on a CD. This gives consistency in the way of reading data when general consumer products (such as DVD players) and PCs are used, and thus, it is easy to operate for the user.

10.2. Why use HighMAT?

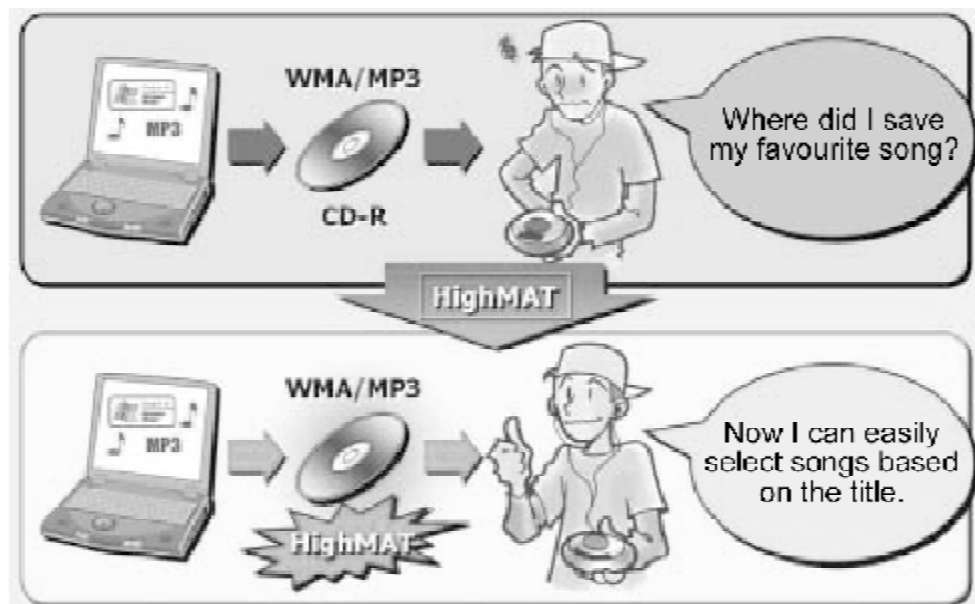
Up to now, there was no harmonized standard from playing digital content stored in CD-ROM formats (including CD-R) on consumer products like DVD players. Therefore, we used to have problems such as follow:

- There was no common play list or attached information on contents, which is called metadata.
- The data compression method differed according to the equipment.
- As the number of CD-ROMs recorded increased retrieved the contents became more difficult.
- Because display and operation methods were different depending on the equipment, the play order of the content on the same disc could change.

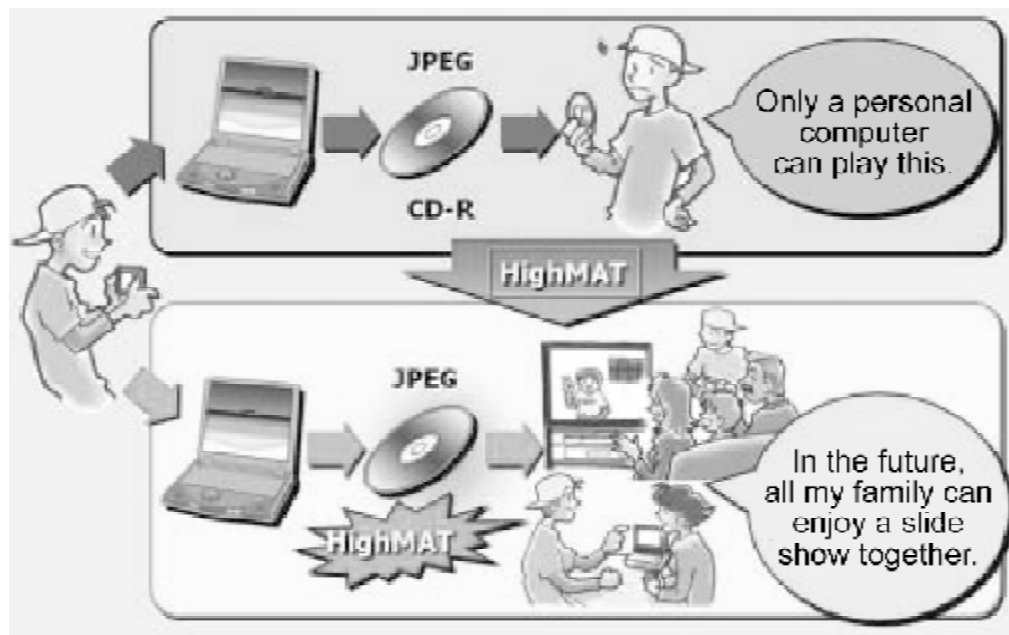
10.3. The advantages of using HighMAT

Applying the HighMAT standard will solve the following problems and will improve usability.

- It will create a common user interface for both PC and consumer products.



- Regardless of the types of consumer products, such as DVD players, portable CD players, car stereos, and micro computers, a consistent way to pay for digital content will be created and it will make it easier to retrieve data.



- You can also play digital content on the disc, which was created in accordance with the HighMAT format with a conventional CD-ROM player.

10.4. Outline of the HighMAT standard

1. Recording medium

- CD-R/CD-RW
- Supports ISO 9660 Level Expanded Joliet
- For multiple session



2. Support data format

- Level 1 player: WMA, MP3 (MPEG-1 Audio Layer 3)
- Level 2 player: WMA, MP3 (MPEG-1 Audio Layer 3), JPEG
- Level 3 player: WMA, MP3 (MPEG-1 Audio Layer 3), JPEG, WMV, MPEG4 (optional)

3. Limitation of data format

- WMA, MP3 (MPEG-1 Audio Layer 3) 64 kbps - 160.999 kbps, 44.1 KHz, stereo, fixed bit rate/ variable bit rate.
- WMA, V2 and above, excluding Lossless/Voice/Pro
- JPEG: Max 6M pixel, Maximum file size: 3 MB

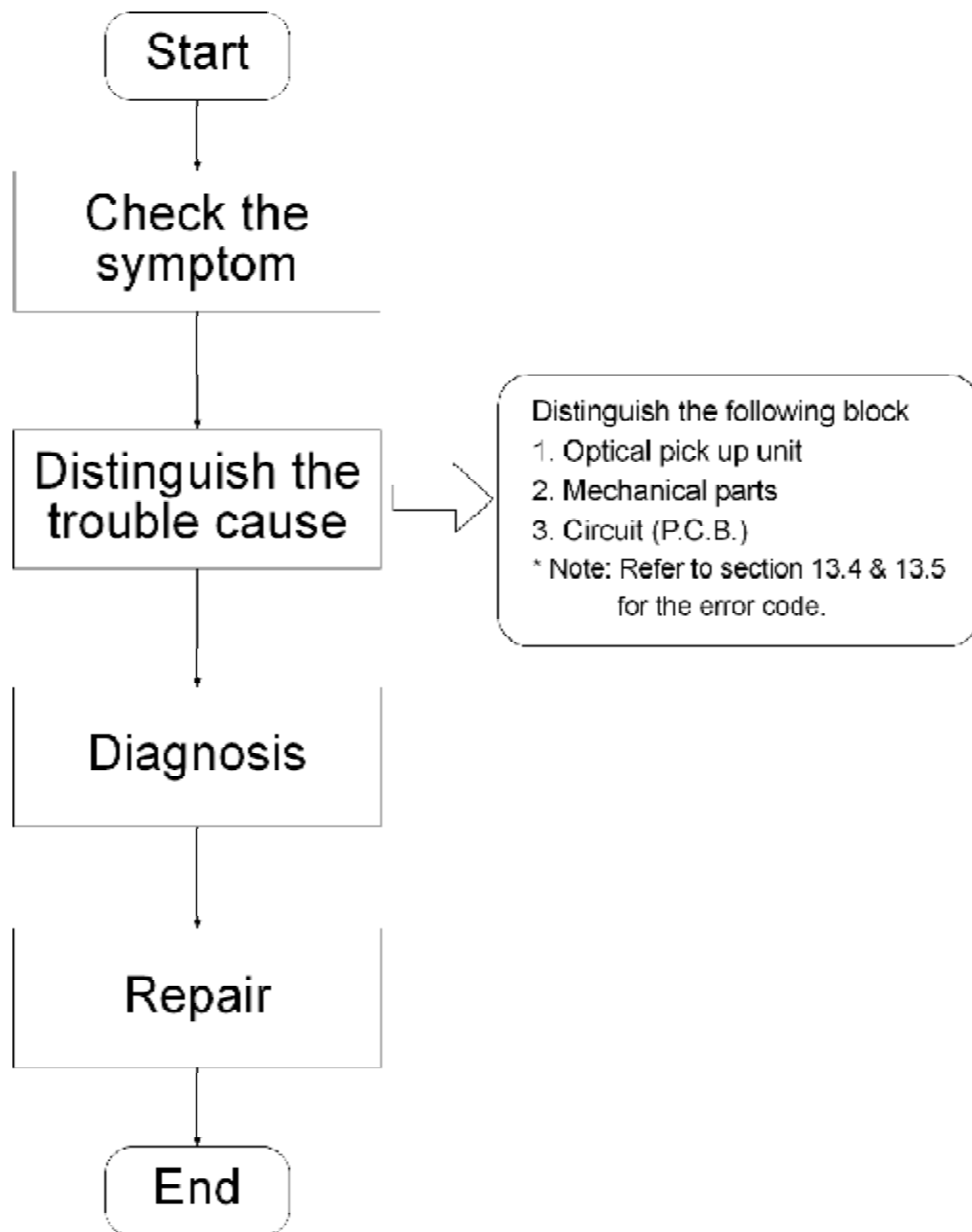
4. Limitations regarding the number of files on the media, etc.

- Total number of audio files: Maximum 450
- Total number of still picture files: Maximum 999
- Total number of animation files: Maximum 200
- Total number of directories: Maximum 400
- Length of a file name: Maximum 108 characters (Unicode)
- Total number of play lists: Maximum 200
- Number of contents in the playlist: Maximum 900

5. Composition of HighMAT disc

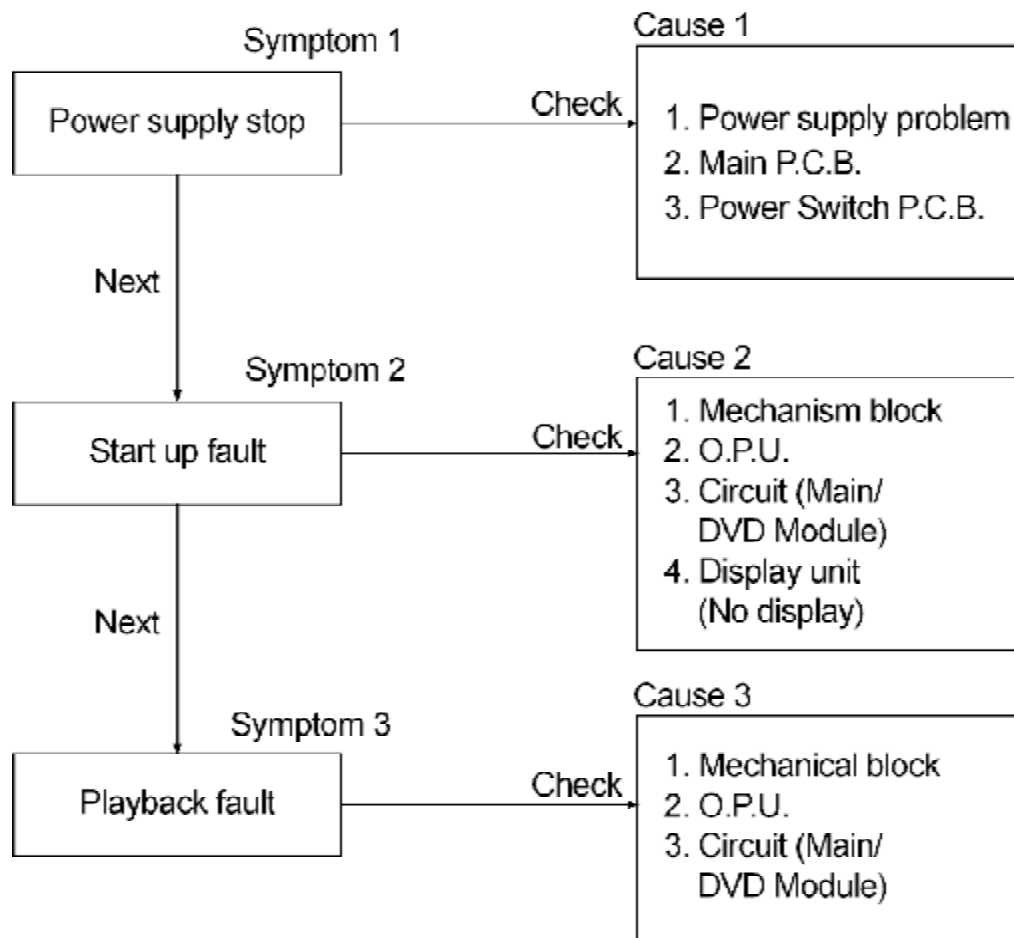
- Menu: Classified for the navigation of the HighMAT digital contents. When menu selected, its submenu or the play list will be displayed.
- Play list: A list in which one or more digital contents are arranged in order
- Group: Sub-divided group of a play list.
- Digital Contents: Audio, still picture, and animation data.

11. Procedure for repairing the set



11.1. Distinguish the trouble cause

- Check flow



How to distinguish the trouble

1. View mechanism part if visual damage occurred.
Confirm the movement of mechanism parts assembly (tray ass'y, loading mechanism ass'y, etc.).
2. Diagnose if Optical Pickup Unit is faulty (refer to diagnosis of Optical Pickup Unit).
3. If mechanism and OPU are OK, it is P.C.B.

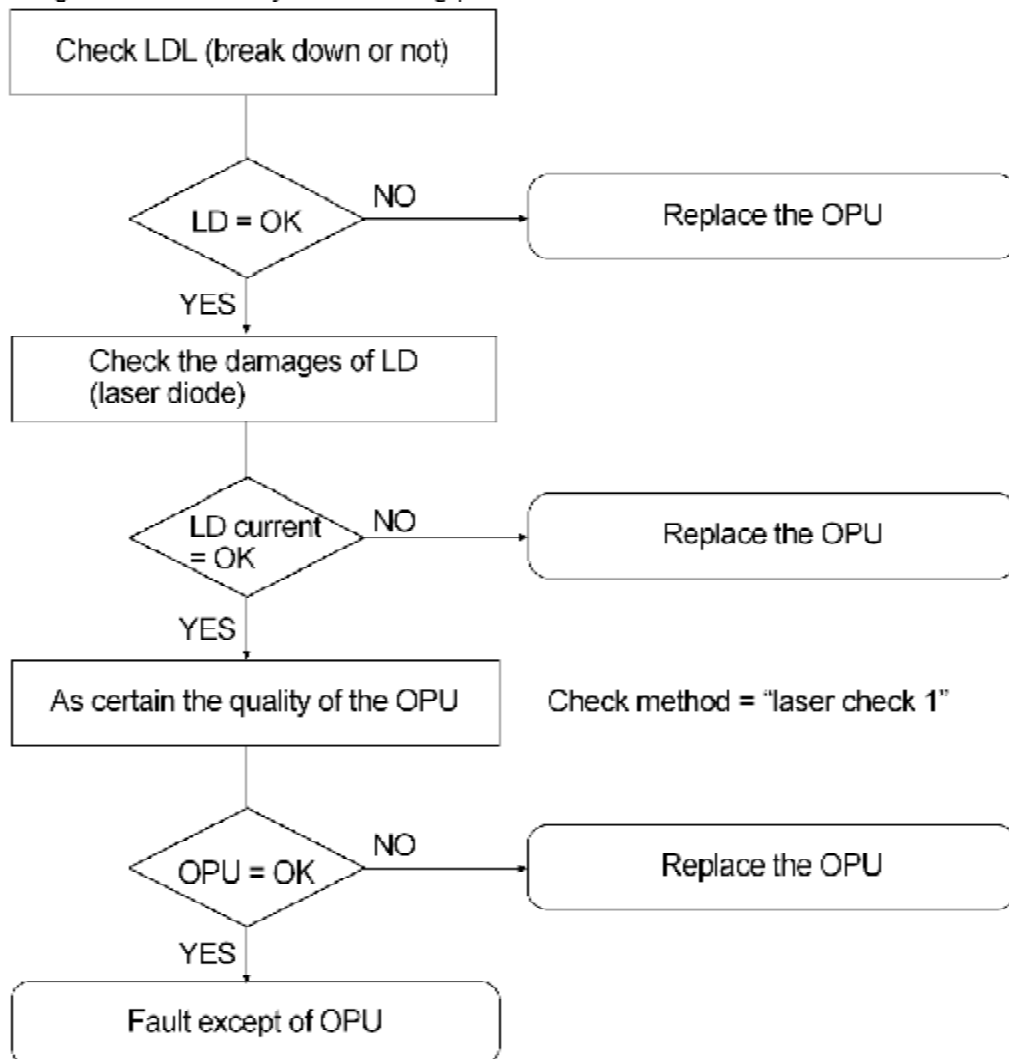
Cause 1	Possible fault
1. Power supply problem	Power switch (S6611), AC inlet (P1001)
2. Main P.C.B.	D1002, D1011, F1001, IC1021, L1001, Q1051, T1021, IC1101
3. Power Switch P.C.B.	CPU (IC6001), X6001, IC6061, IC6062

Cause 2	Possible fault
1. Mechanism block	Tray and loading mechanical block, traverse unit, CPU (IC6001)
2. O.P.U.	Refer to the diagnosis of OPU
3. Circuit	LD drive, servo (Traverse, Focus, Tracking unit), IC8271 & IC8251 Disc sensor (Pin 124, 126) of IC8001)
4. Display Unit (No display)	FL (DP6501) unit, IC6501 (CPU), Pin 1 to 4 (FP6501)

Cause 3	Possible fault
1. Mechanical block	Traverse block (Tilt adjustment)
2. O.P.U.	Refer to the diagnosis of OPU
3. Circuit	Servo (Focus, tracking) IC8271, Motor Drive (IC8251)
4. Main CCT	Audio signal processing (IC4310, IC4302, IC4303 & IC4304) Video signal processing (IC3501) - pin 31, 25, 22, 19
5. DVD Module CCT	Audio signal processing (IC8451) - pin 13, 14, 9, 10, 11, 12 Video signal processing (IC8001)

11.2. Diagnosis of Optical Pick-up Unit

Diagnosis Method
Diagnose the OPU by the following procedure



Note: When LD does not emit light after replacing the OPU, check the LD drive circuit in the module P.C.B.

How to distinguish Laser destruction/damage

Confirmation 1

Remove cover of mechanism block so that you will see the lens of optical pickup.

Confirm emission of laser at the moment when power switch is turned on.

If there is no laser emission, laser diode is faulty.

Confirmation 2

While holding "Pause" and "Open/Close" button, press "Display" button on the remote controller. Unit display laser current on FL.

From the reading of display, you can judge if laser diode is damaged or not.

Reading on the right side should be less than 70. If reading is more than 70, laser is damaged.

How to confirm if Optical Pickup is OK

Confirmation 1

1. Confirmation of jitter value with test disc. (Refer below for how to check jitter)
 2. Lens cleaning.
 3. Reconfirm jitter value.
 4. Perform tilt adjustment. (Refer to tilt adjustment)
 5. Reconfirm jitter value. (To confirm jitter value, while pressing “Pause” and “Open/Close” button, press numeric “5” on remote controller.)
- Unit display jitter value on FL.

Confirmation 2

If servo is very unstable due to optical error and you cannot confirm jitter value, clean the lens and check appearance of pick up unit (cutting coil of actuator, etc), then check circuitry.

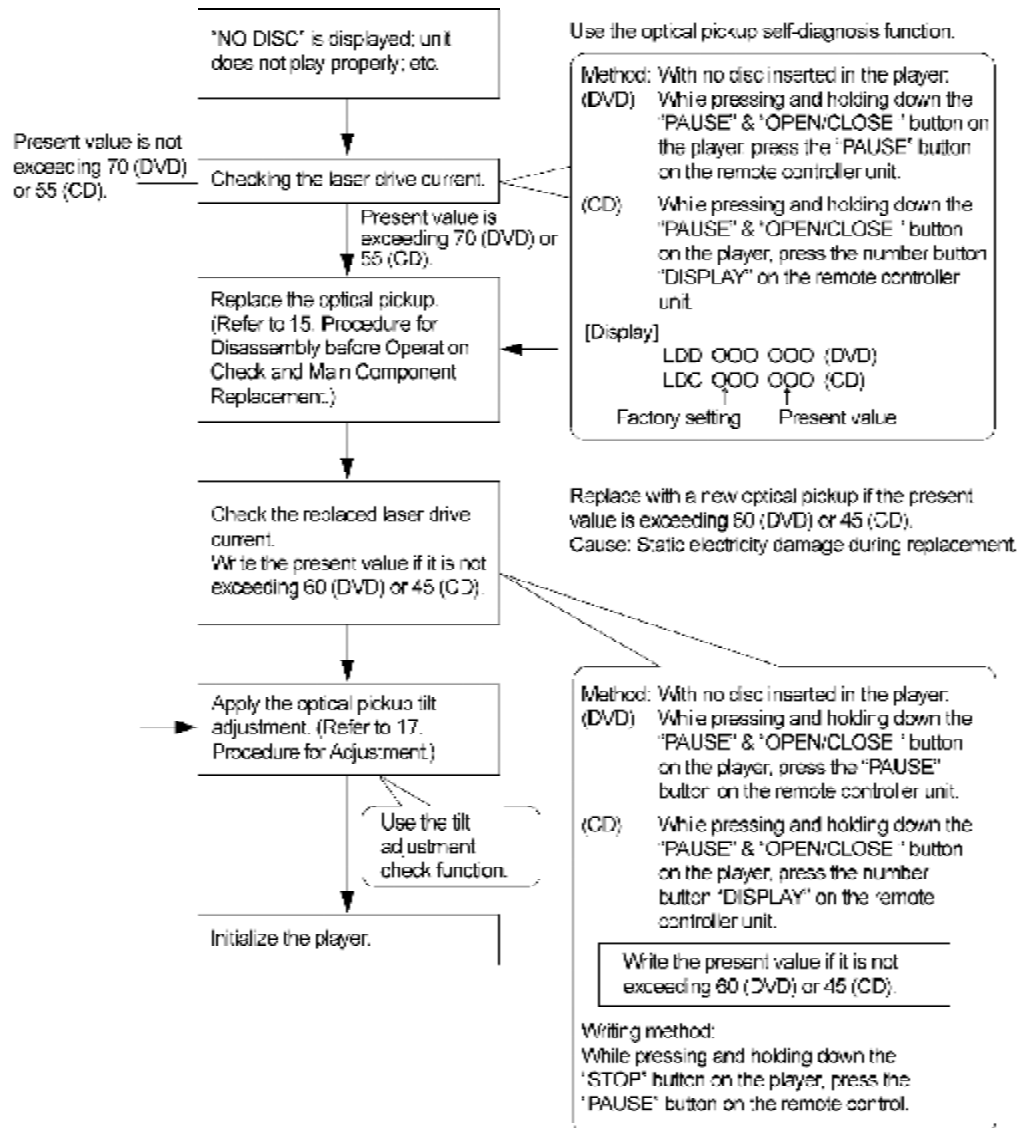
12. Optical Pickup Self-Diagnosis and Replacement Procedure

12.1. Self-diagnosis

This unit is equipped with the optical pickup self-diagnosis function and the tilt adjustment check function. Follow the procedure described below during repair in order to perform self-diagnosis and tilt adjustment effectively. Especially when “NO DISC” is displayed, be sure to apply the self-diagnosis function before replacing with an optical pickup. Replacement of optical pickup generally requires when the present value of laser drive exceeds 70 (DVD) or 55 (CD).

Note:

Start diagnosis within three minutes after turning on the power (as diagnosis fails when the unit becomes warm).



12.2. Cautions to Be Taken During Replacement of Optical Pickup and Spindle Motor

Before replacing the optical pickup and spindle motor, check for the total usage time respectively. Follow the checking method described below.

Item	Player mode and button combination	Display
Checking DVD, CD laser usage time	In STOP mode, press PAUSE and FWD-SKIP buttons on the player, and "5" button on the remote control unit.	T1_xxxx_yyyy / xxxx(DVD), y: total time is displayed with a digit number by the ten hours.
Checking spindle motor usage time	While displaying Timer 1 data, press STOP and FWD-SKIP buttons on the player, and "5" button on the remote control unit.	T2_xxxx / xxxx: total time is displayed with a four-digit number by the ten hours.
Resetting DVD, CD laser usage time	In STOP mode, press PAUSE and FWD-SKIP buttons on the player, and "6" button on the remote control unit.	T1_0000_0000
Resetting spindle motor usage time	While displaying Timer 2 data, press STOP and FWD-SKIP buttons on the player and "6" button on the remote control unit.	T2_0000

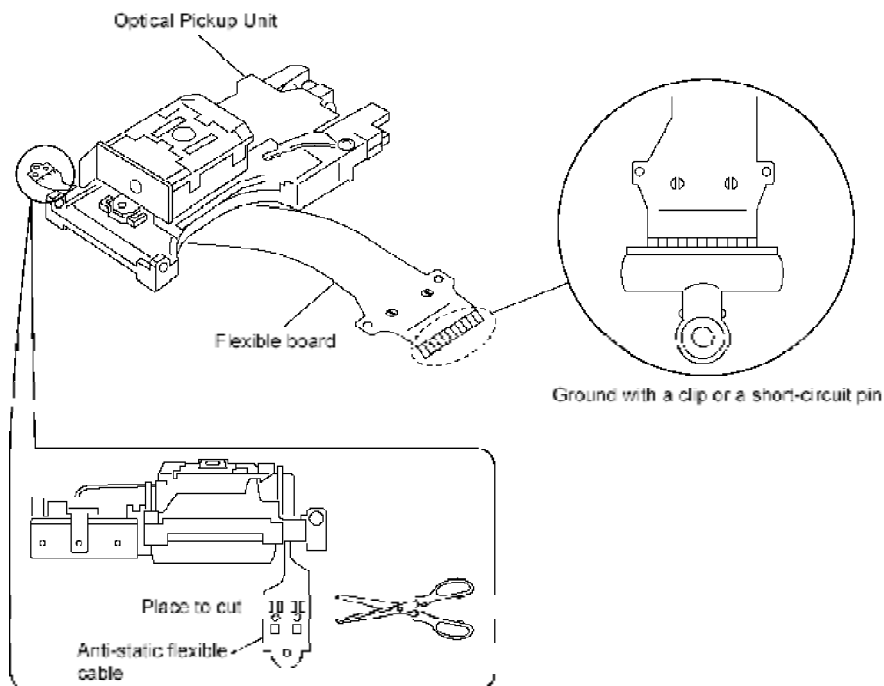
12.2.1. Cautions to be taken during replacement of optical pickup

Optical pickup could be damaged due to the static electricity discharged from human body. Wear proper protection gear against static electricity during optical pickup and its peripheral repair. (Refer to "Cautions to Be Taken When Handling Optical Pickup".)

- Do not touch laser diode, actuator and their peripherals.
- Do not check laser diode with a tester and such. (The tester will be destroyed.)
- For short-circuiting or removing laser diode, the use of an anti-static soldering iron is recommended. (Recommended model: HAKKO ESD product)
- Solder the land of the flexible cable in the optical pickup.

Note:

If an anti-static soldering iron is not available, short-circuit the terminal surface of the flexible cable and then the land using a clip or equivalent device.



13. Self-Diagnosis Function

This unit is equipped with the self-diagnosis function, which displays an error when it occurs, for use during servicing.

13.1. Automatic Displayed Error Codes

13.1.1. Automatic Display Function

For a power unit error, the code is automatically displayed.

F61:

Automatically displayed on the LCD of the player.

13.1.2. Re-Display

- For F61 Display
- When the code, F61 is displayed, the power is automatically turned off.
- The code, F61 is displayed for three seconds, and then the current time appears.
- To retrieve the code, turn on the power button so that the code F61 appears, however, is switched to time display after three seconds, and the power is automatically turned off.

13.1.3. Description of Error Code

13.1.3.1. F61

- State, Condition

When the power is turned on, the unit is automatically turned off.
The power does not turn on.

- Cause, Troubleshooting

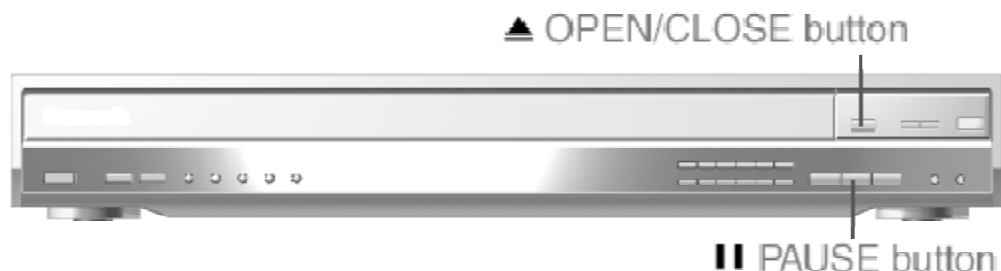
Power circuit system failure and/or direct current flown to speaker terminal. / Identify the cause and replace with new parts.

13.2. Memorized Error Codes

13.2.1. Activating Self-Diagnosis Function and Displaying Method

1. Turn on the power.
2. Select DVD/CD function. With no DVD/CD inserted in the player, press and hold down the  PAUSE button for at least two seconds, and press the  OPEN/CLOSE button for at least two seconds in order to display "F _ _ _".
3. Press the "0" button on remote control. If a memorized error is detected, the result of self diagnosis is displayed. / If several errors are detected, press the  button to display each.

Fig. 13-1



13.2.2. Re-Display

- Press the power button to turn off the power, and then turn on the power.
- The details of self diagnosis are stored in the unit memory. / To retrieve them, follow the procedure described the above, "Activating Self-Diagnosis Function and Displaying Method".

13.3. Service Mode Table 1

The service modes can be activated by pressing various button combination on the player and the remote control unit.

Player buttons	Remote control unit buttons	Application
PAUSE + OPEN/ CLOSE	0	Displaying the UHF display F _ _ _
	5	Jitter check, tilt adjustment *Display show J _xxx _yy _zz “yyy” and “zz” shown to the right have nothing to do with the jitter value. “yyy” is the error counter, while “zz” is the focus drive value. Refer to Section 16.1.4 for Optical Adjustment (Optical Pickup Tilt Adjustment)
	6	Checking the region numbers and broadcast system
	7	Checking the program version
	9	Lighting Confirmation Function of Display Tube
	DISPLAY	Checking the laser drive current
	PAUSE	Writing the laser drive current value after replacing the optical pickup (do not use for anything other than optical pickup replacement)
PAUSE SKIP/SEARCH<< OPEN/CLOSE PAUSE		Initializing the DVD player (restoring factory preset settings) *Use when replacing a microprocessor, microprocessor peripheral, or P.C.B.

13.4. DVD/CD Self-Diagnosis Error Code Description

Error Code	State, Conditon	Cause, Troubleshooting
H15	The disc tray cannot be opened: it closes spontaneously.	Disc tray open/close detection switch (S failure. / (Check and replace)
H16	The disc tray cannot be closed: it opens spontaneously.	

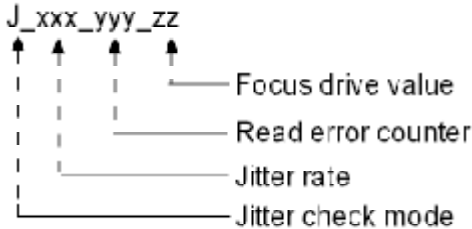
Error Code	Meaning	Details
U.H.Error		
U11	Focus servo failure	
H01	Tray loading failure	
H02	Spindle servo failure	(Spindle servo, DSC, SP motor, CLV ser
H03	Traverse motor failure	
H04	Tracking servo error	
H05	Seek timeout failure	
H06	Power supply error	
DSC system		
F500	DSC failure	DSC stops due to servo failure. / (Startu failure, etc.)
F501	DSC not Ready failure	Communication failure between DSC an computer / (No communication because does not move)
F502	DSC Time out failure	See F500.
F503	DSC communication failure	Communication failure (Result failure o after communication command is transi
F505	DSC Attention Error	See F500.
F506	Invalid media	Disc is placed upside down; TOC is unr or invalid disc is inserted.
Disc Code		
F103	Illegal highlight position	Disc standard is possibly illegal when h is displayed.
IIC Error		
F4FF	Forced initialization failure (Time out)	
F880	Unsuitable task number	When a message arrives from not existi
F890	A message is sent during AV task transmission	During transmission of a message to AV
F891	Unable to transmit a message to AV task	When transmission of a message to AV starts
F893	DVD module problem	Firmware version
F894	EEPROM failure	
F8A0	Unsuitable message command	When transmission of a message to AV starts
F897	Main unit not initialized properly	When power-up, (Do initialization of ma

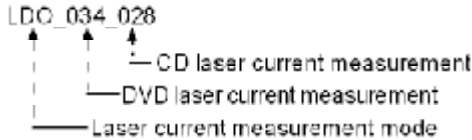
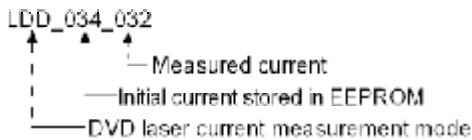
13.5. Error Codes Stored During No Play

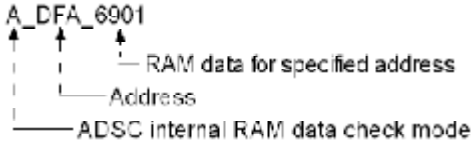
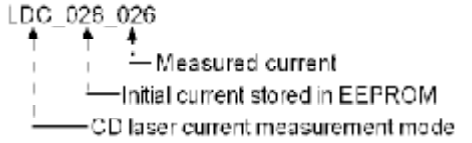
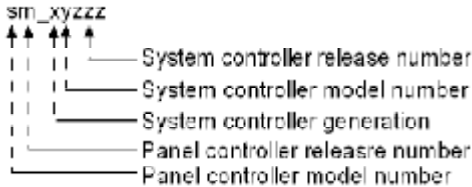
Error Code	Meaning	System Computer Item	Setting Task	Internal system c
F0BF	6) Unable to replay due to physical layer identification failure	PCND_NOPLAY_PHYSICAL 0x50	DriveManager	0xD0BF
F0C0	8) DVD: Unable to replay due to no DVD Video/Audio/VR	PCND_NOPLAY_VIDEO 0x70	DiscManager	0xD0C0
F0C1	9) DVD: Prohibited due to illegal regional code	PCND_NOPLAY_RCD 0x80	DiscManager	0xD0C1
F0C2	A) DVD: No replay due to PAL system	PCND_NOPLAY_PAL 0x90	DiscManager	0xD0C2
F0C3	B) DVD: All title replay prohibited in parental setting	PCND_NOPLAY_PTL 0xA0	DiscManager	0xD0C3
F0C4	C) VCD: Prohibited due to PHOTO CD format	PCND_NOPLAY_PHOTOCD 0xB0	DiscManager	0xD0C4
F0C5	D) VCD/CD: Prohibited due to CD-ROM without CD-DA	PCND_NOPLAY_CDROM 0xC0	DiscManager	0xD0C5

13.6. Service Mode Table 2

Pressing various button combinations on the player and remote control unit can activate the service modes.

Item	Player mode and button combination	Function	Display	Car r
Jitter check	In STOP mode, press "PAUSE" & "OPEN/CLOSE" button on the player, and "5" button on the remote control unit.	Jitter check. Jitter check is measured and displayed. Measurement is repeatedly done in the cycle of one second. Read error counter starts from zero upon mode setting. When target block data failed to be read out, the counter advances by one increment. When the failure is cause by mirror error, it may be corrected when retried to enable successful reading. In this case, the counter advances by one. When the erroe persists even after retry, the counter may jump by two or more.	 Jitter rate is shown in decimal notation to one place of decimal. Focus drive value is shown in hexadecimal notation.	Pre ST OP CL but

Item	Player mode and button combination	Function	Display	Caution
Error code check	In STOP mode, press PAUSE and OPEN/CLOSE buttons on the player, and "0" button on the remote control unit. * With pointing of cursor up and down on display, the panel controller switches serial number of history and sends out the command accordingly.	Error code check. The latest error code stored in EEPROM is displayed.	Error code (play_err) is expressed in the following convention. Error code=0 x DAXX is expressed: → nn UXX Error code= 0 x BDXX is expressed: → nn HXX Error code= 0 x DXXX is expressed: → nn FXXX Error code= 0 x 0000 is expressed: → nn F- - *"nn" denotes the serial number of history.	Caution 5 seconds
Initial setting of laser drive current	In STOP mode, press PAUSE and OPEN/CLOSE buttons on the player, and PAUSE button on the remote control unit.	Initial setting of laser drive current initial current value for each of DVD laser and CD laser is separately saved in EEPROM.	 The value denotes the current in decimal notation. The above example shows the initial current is 34mA and 28mA for DVD laser and CD laser respectively when the laser is switched on.	Caution 5 seconds
DVD laser drive current measurement	In STOP mode, press "PAUSE" button on player, and DISPLAY button on the remote control unit.	DVD laser drive current measurement -DVD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, DVD laser emission is kept on. It is turned off when / POWER key is switched off. (It is also turned off when the primary power is switched off.)	 The value denotes the current in decimal notation. The above example shows the initial current is 34mA and the measured value is 32mA.	Caution 5 seconds

Item	Player mode and button combination	Function	Display	Car
ADSC internal RAM data check	In STOP mode, press PAUSE and OPEN/CLOSE button on the player, and RETURN button on the remote control unit.	ADSC internal RAM data check -ADSC internal RAM data is read out and displayed. / Change the address with CLEAR key operation to show the data for 11 addresses.	 The value is shown in hexadecimal notation. The above example shows the data in ADSC address DFah is 6901h.	Pre STO OP CL but
Servo process display	In STOP mode, press PAUSE and FWD-SKIP buttons on the player, and "7" button on the remote control unit.	Servo process displayed. The servo process from STOP to ACCESS is displayed.	-	Tui sec pow
CD laser drive current measurement	In STOP mode, press PAUSE and FWD-SKIP buttons on the player, and DISPLAY button on the remote control unit.	CD laser drive current measurement. CD laser drive current measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, CD laser emission is kept on. It is turned off when POWER key is switched off. (It is also turned off when the primary power is switched off.)	 The value denotes the current in decimal notation. The above example shows the initial current is 28mA and the measured value is 26mA.	-
Version display	In STOP mode, press PAUSE and OPEN/CLOSE buttons on the player, and "7" button on the remote control unit.	Version display.		Car aut 5 s late

Item	Player mode and button combination	Function	Display	Car
Lighting of display tube	In STOP mode, press PAUSE and OPEN/CLOSE buttons on the player, and "9" button on the remote control unit.	Lighting of display tube	-	Pre STOP CL but
Dealer's lock	In STOP mode, press STOP button on the player, and POWER button on the remote control unit.	Dealer's lock. The lock is switched ON or OFF. When dealer's lock is ON, it prohibits switching off of the secondary power and tray opening. When the lock is switched, its ON/OFF status is stored in EEPROM.	-"LOCKED" sign appears when dealer's lock is switched on, or when secondary power key or tray opening key is pressed while the lock is on. -"UNLOCKED" sign appears when dealer's lock is switched off.	Rej sar op
Initializa tion	In STOP mode, press PAUSE, FWD-SKIP and OPEN/CLOSE buttons on the player for 3 seconds or longer.	Initialization. User settings are cancelled and player is initialized to factory setting.	"INITIALIZED"	
Region display	In STOP mode, press PAUSE and OPEN/CLOSE buttons on the player, and "6" button on the remote control unit.	Region display	x_yy_zzz ↑ ↑ ▲ — N:NTSC / 6: PAL60 — N:noPAL / P:PAL — Region No.	Cal aut 5 s late

13.7. Service Mode Table 3

Item	Player mode and button combination	Function	Display	Cancellation
Timer 1 check	In STOP mode, press PAUSE and FWD-SKIP buttons on the player, and "5" button on the remote control unit.	Timer 1 check. Laser operation timer. Operation time is measured separately for DVD laser and CD laser.	T1_1234_5678. Shown to the left is DVD laser time, and to the right is CD laser time. Time is shown in 4 digits of decimal notation in a unit of 10 hours. "0000:" will follow "9999". (You may have to press the "FL select" button on the remote control to view the remaining text when the text is too long to display on the FL at one time).	Cancellation automatic second
Timer 1 reset	While displaying Timer 1 data, press STOP and FWD-SKIP buttons on the player, and "5" button on the remote control unit.	Timer 1 reset. Laser operation timer. Operation time of both DVD laser and CD laser is reset all at once.	T1_0000_0000. (You may have to press the "FL select" button on the remote control to view the remaining text when the text is too long to display on the FL at one time).	Cancellation automatic second
Timer 2 check	In STOP mode, press PAUSE and FWD-SKIP buttons on the player, and "6" button on the remote control unit.	Timer 2 check. Spindle motor operation timer.	T2_1234. Time is shown in 4 digits of decimal notation in a unit of 10 hours. "0000" will follow "9999".	Cancellation automatic second
Timer 2 reset	While displaying Timer 2 data, press STOP and FWD-SKIP buttons on the player and "6" button on the remote control unit.	Timer 2 reset. Spindle motor operation timer.	T2_0000	Cancellation automatic second

13.8. Lock Function

This function prohibits removal of disc and some disc operations to prevent loss of disc at a shop during sales promotion or equivalent occasions. / While this function is activated, the player displays "___LOCKED_" if any button is touched.

13.8.1. Setting

- Prohibiting removal of disc

1. Select the DVD/CD function.
2. Press and hold down the  button on the player and the power button on the remote controller unit for at least three seconds. (The message, “___LOCKED_” appears when the function is activated.)

Note:

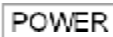
OPEN/CLOSE  button are invalid and the player displays “___LOCKED_” while the lock function mode is entered.

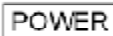
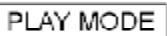
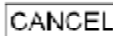
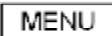
- Prohibiting operation of selector and disk

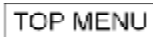
1. Select the DVD/CD function.
2. Press and hold down the  button on the player and the power button on the remote controller unit for at least three seconds. (The message, “___LOCKED_” appears when the function is activated.)

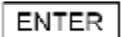
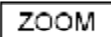
Note:

The following buttons are invalid and the player displays “___LOCKED_” while the lock function mode is entered.

Main unit:  ,  ,

Remote control:  ,  ,  ,  ,  ,

 ,  ,  ,  ,  ,

 , 

13.8.2. Exiting Lock Function

While the lock function is activated, press the buttons which are used to enter the mode. (“___LOCKED_” appears for one second, and then “_UNLOCKED_” appears. (After this, the lock function is deactivated.)

13.9. Things to Do After Repair

Follow the procedure described below after repair.

1. While the power is on, press the  button to close the tray.

2. Press the power button to turn off the power.
3. Unplug the power cable.

Note:

It is prohibited to unplug the power cable while the tray is opened and to close the tray manually.

14. Service precautions

14.1. Recovery after the player is repaired

- When FLASH ROM or Module (2) P.C.B. is replaced, carry out the recovery processing to optimize the drive. Playback the recovery disc to process the recovery automatically.
- Recovery disc (Product number=RFKZD03R005)
- Performing recovery
 1. Load the recovery disc (Product number: RFKZD03R005) to the player and run it.
 2. Recovery is performed automatically. When it is finished, a message appears on the screen.
 3. Remove the recovery disc.
 4. Turn off the power.

Note:

This unit requires no initialization process carried out after the traditional DVD players were repaired. When the recovery measures are taken, the customer setting will return to the factory setting as same as the procedure described in item "Initialization" in 13.6 is carried out. Write down the contents of the setting before recovery processing and reset the player.

14.2. DVD Player Firmware Version Upgrade Process

Firmware of DVD player may upgrade to conform to improvement of its performance and quality including operational range, playability of non-standardized discs, etc. The version upgrade disc contains the recovery function, and the recovery disc is not necessary.

Note:

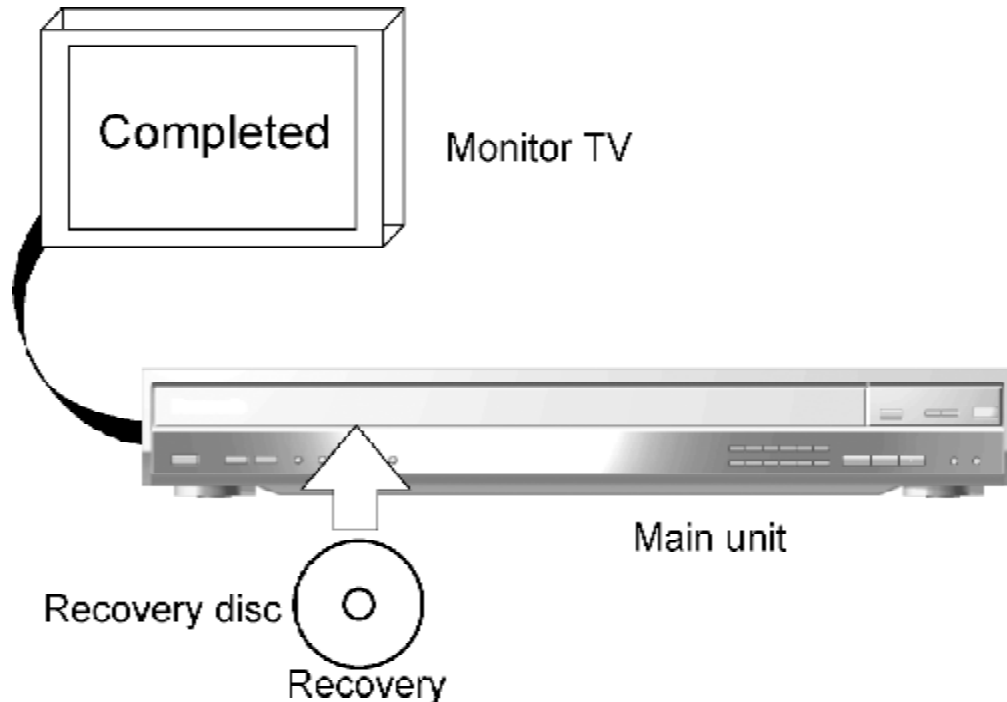
Version upgrade process cannot be complete if the AC power is cut off due to power failure and other occasions during the process. If this occurs, replace FLASH ROM and restart version upgrade. Version upgrade disc number is informed when ordered.

14.3. Firmware Version Upgrade Process by Using Recovery Disc

- Recovery process

- Firmware version upgrade process

Both of the above procedures automatically start when the recovery disc is replayed. General CD-R disc allows version upgrade process and recovery process, making version upgrade through disc simple. / Recovery process: Optimization process of player after replacement of FLASH ROM, EEPROM, or DVD Module Circuit board / Version upgrade process: Renewal of firmware for improvement of operational range and performance



14.3.1. Version Upgrade Process

1. Insert the recovery disc to the player to replay.
2. The version of player is automatically checked and prompts if necessary.
3. Select version upgrade process using the cursor keys on the remote controller unit. (Select YES or NO)
4. a. If YES is selected, the process starts.
b. If NO is selected, only the recovery process is applied.
5. a. When the version upgrade process is complete, a message of completion appears on the screen. Remove the disc.
b. Follow the instruction appearing on the screen, and remove the disc.
6. Turn off the power.

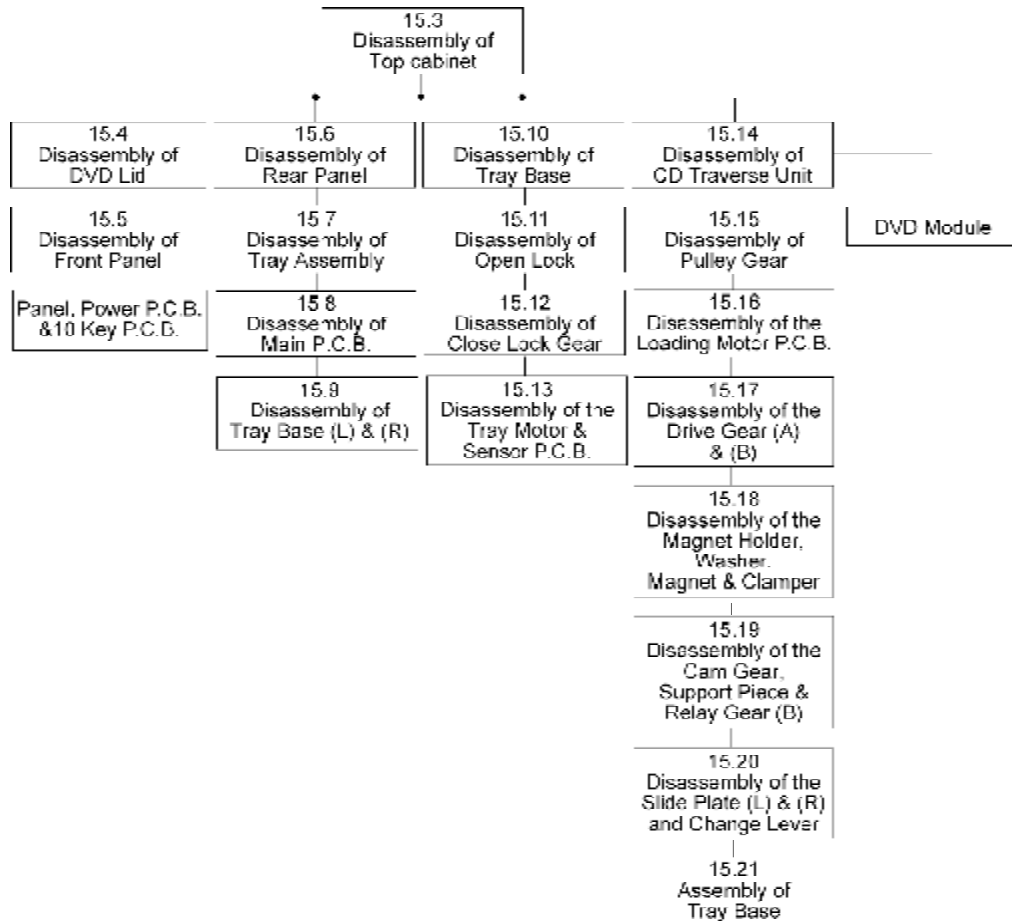
15. Disassembly and Main Component Replacement

Procedures

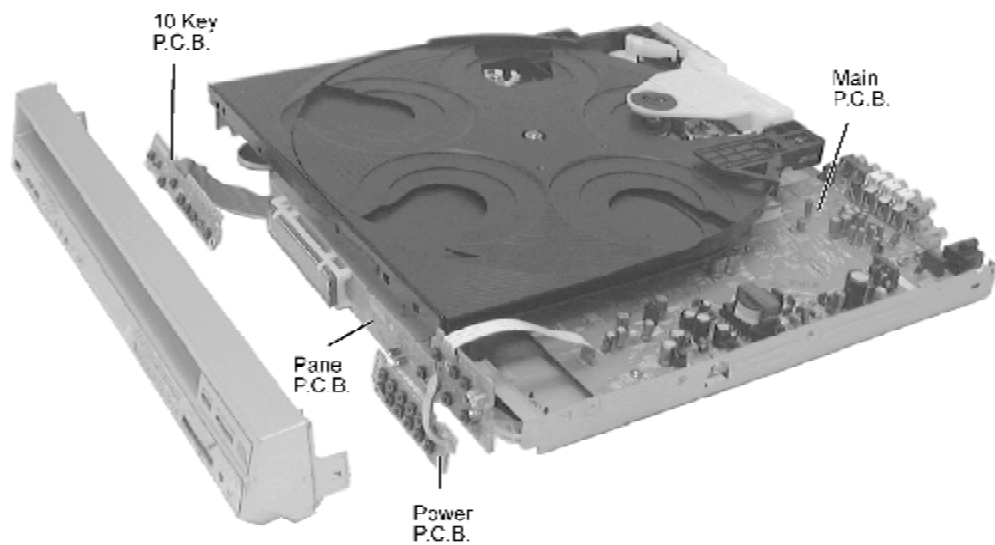
15.1. Disassembly flow chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart as below.



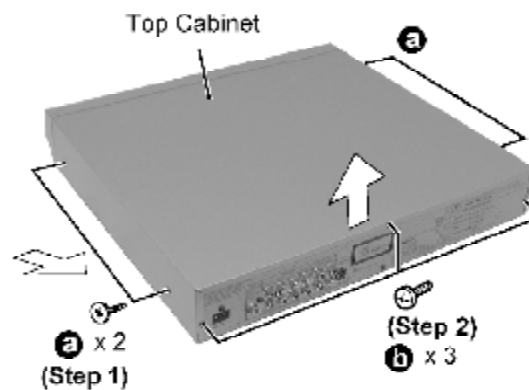
15.2. Printed Circuit Boards (P.C.B.) Position



15.3. Disassembling of Top Cabinet

Step 1 Remove 4 screws.

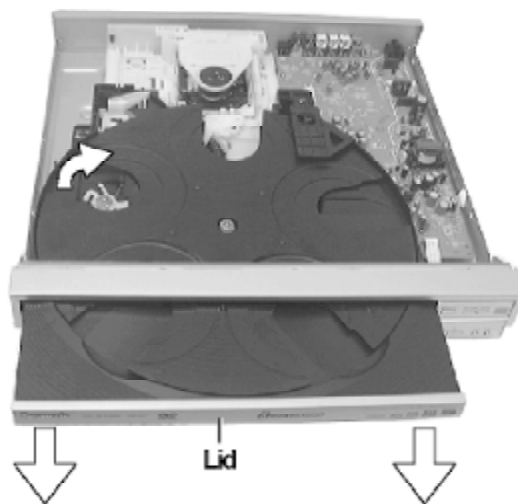
Step 2 Remove 3 screws, and push the top cabinet backwards to lift up.



15.4. Disassembling of DVD Lid

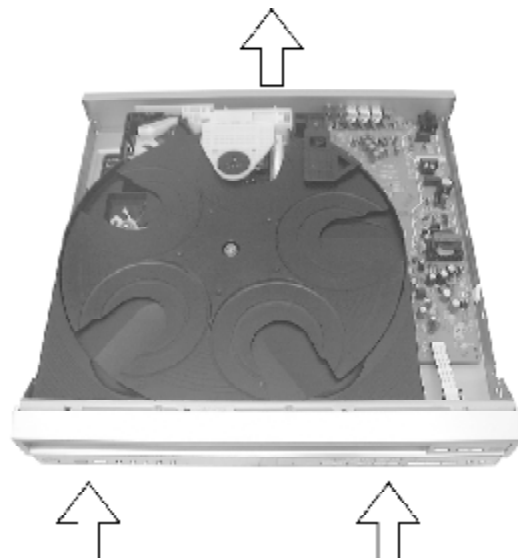
- Follow the (Step 1) - (Step 2) of Item 15.3.

Step 1 Keep the close lock gear pressed in clockwise, move the tray assembly in the direction of the arrow.



Step 2 Remove dvd lid.

Step 3 Release the close lock gear and slide the disc tray backward as arrow shown.

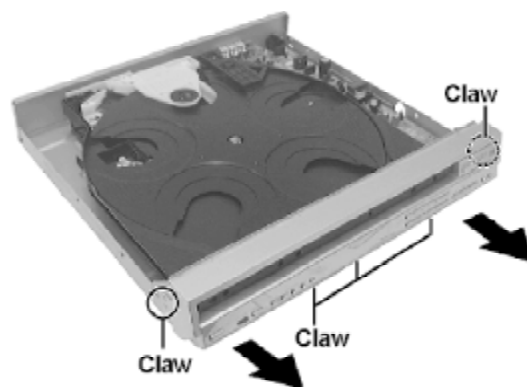


15.5. Disassembling of Front Panel

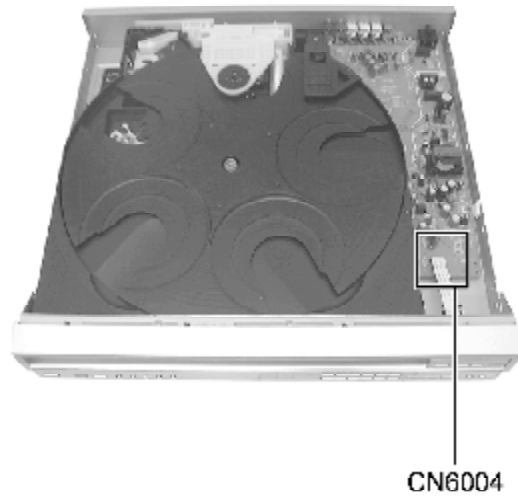
- Follow the (Step 1) - (Step 2) of Item 15.3.

- Follow the (Step 1) - (Step 2) of Item 15.4.

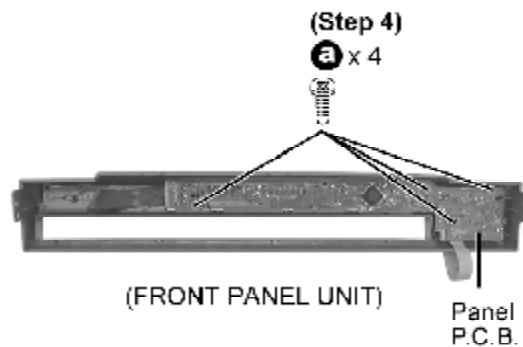
Step 1 Release 2 claws on each side and 3 claws below the unit.



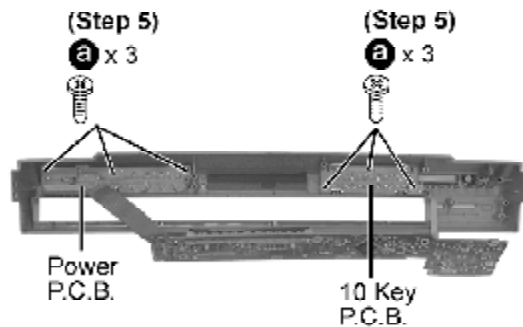
Step 2 Disconnect FFC board connector (CN6004).



Step 3 Draw the front panel unit forward.



Step 4 Remove 4 screws, draw the Panel P.C.B. forward.

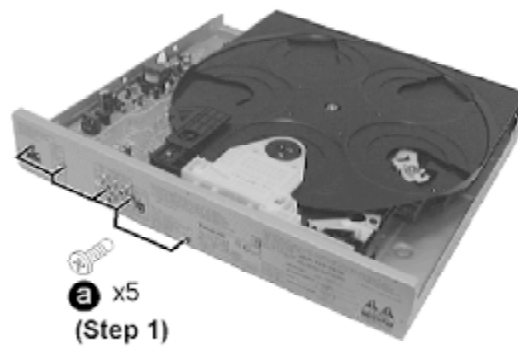


Step 5 Remove 6 screws, Power P.C.B. and 10 Key P.C.B. show.

15.6. Disassembling of Rear Panel

- Follow the (Step 1) - (Step 2) of Item 15.3.

Step 1 Remove 5 screws.



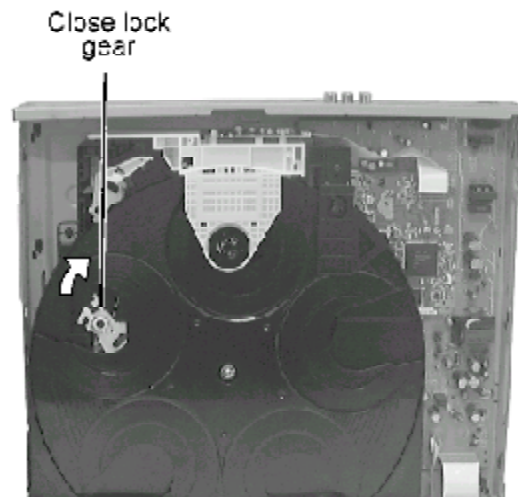
Step 2 Remove rear panel.

15.7. Disassembling of Tray Assembly

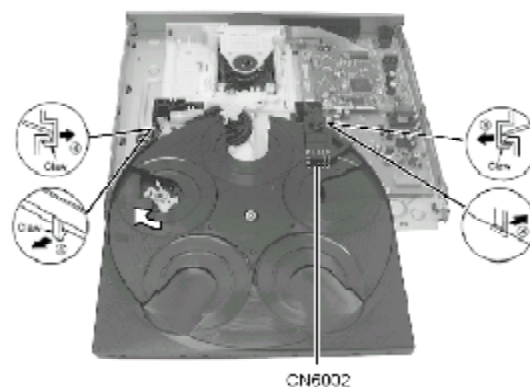
- Follow the (Step 1) - (Step 2) of Item 15.3.

- Follow the (Step 1) - (Step 3) of Item 15.4.

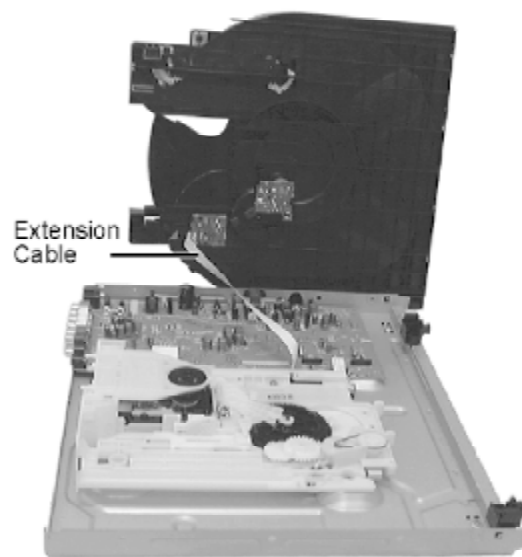
Step 1 Keep the close lock gear pressed in clockwise, move the tray assembly in the direction of the arrow.



Step 2 Hold close lock gear, push and release the 4 claws in the direction of arrow, and then remove the tray assembly.



Step 3 Detach FFC CN6002.

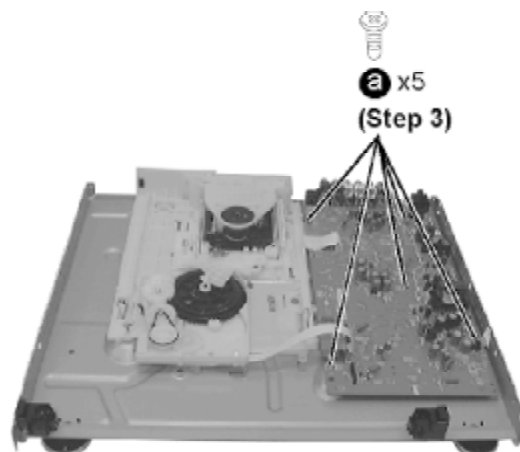


Step 4 Flip the tray, use extension cable to connect CN6002.

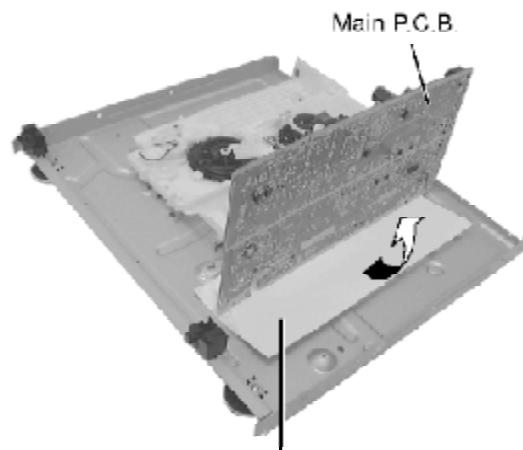
15.8. Disassembly of Main P.C.B.

- Follow the (Step 1) - (Step 2) of Item 15.3.
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 5) of Item 15.5.
- Follow the (Step 1) - (Step 2) of Item 15.6.

Step 1 Remove 5 screws.



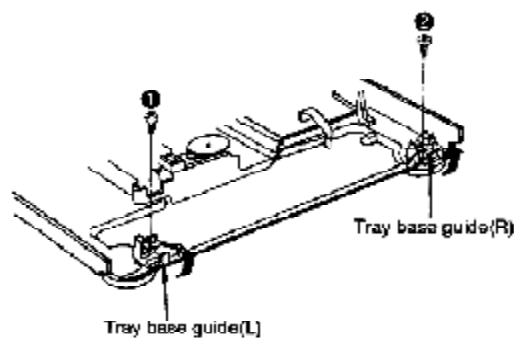
Step 2 Flip Main P.C.B.



NOTE:
Cover the Main P.C.B.
assy with cloth to
prevent from damage.

15.9. Disassembly of Tray Base Guide (L) and Tray Base Guide (R)

- Follow the (Step 1) - (Step 2) of Item 15.8.



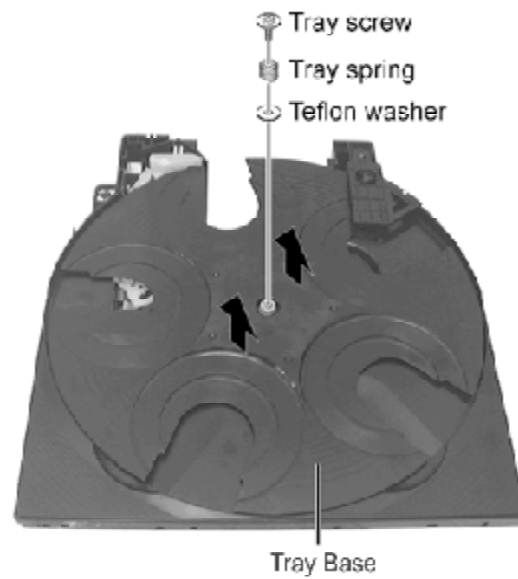
Step 1 Remove the 2 screws.

Step 2 Remove the tray base guide (L) and tray guide (R) in the direction of arrow.

15.10. Disassembly of Tray Base

- Follow the (Step 1) - (Step 2) of Item 15.3.

- Follow the (Step 1) - (Step 3) of Item 15.4.

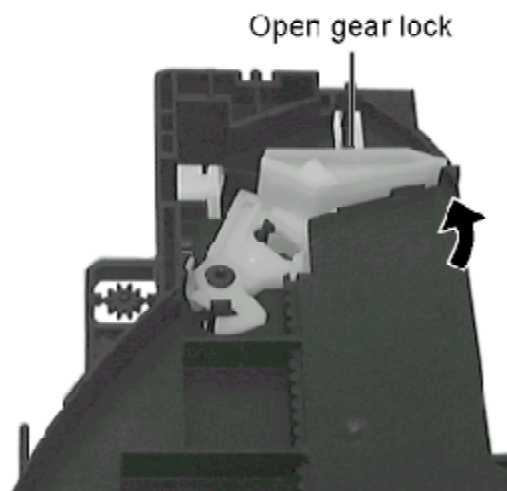


Step 1 Remove tray screw, tray spring and teflon washer.

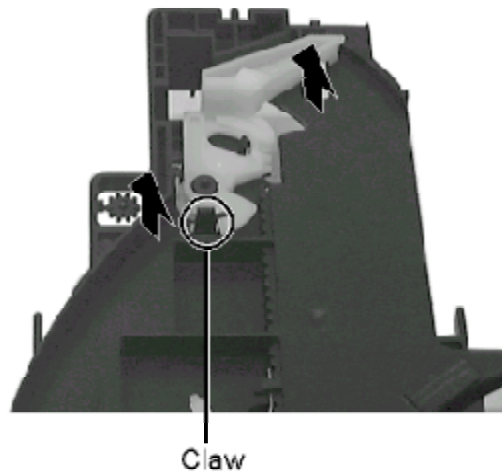
Step 2 Remove rotary tray.

15.11. Disassembly of Open Lock Gear

- Follow the (Step 1) - (Step 2) of Item 15.3.
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 3) of Item 15.7.



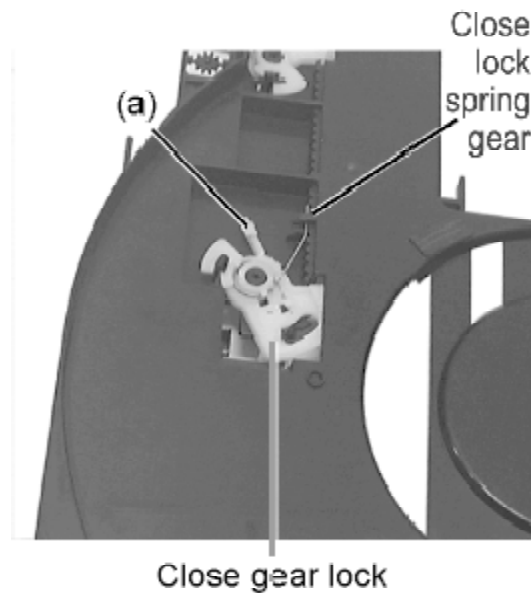
Step 1 Rotate open lock gear in the direction of arrow. (Anti-clockwise)



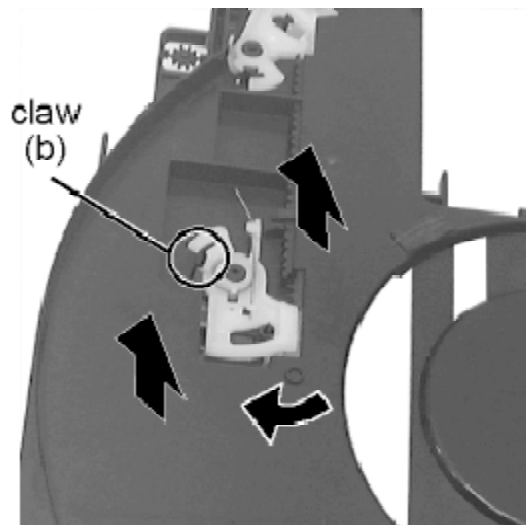
Step 2 Release claw of open lock gear, remove open lock gear in the direction of arrow .

15.12. Disassembly of the Close Lock Gear & Close Lock Gear Spring

- Follow the (Step 1) - (Step 2) of Item 15.3.
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 3) of Item 15.7.
- Follow the (Step 1) - (Step 2) of Item 15.10.



Step 1 Hold close lock spring to claw (a).

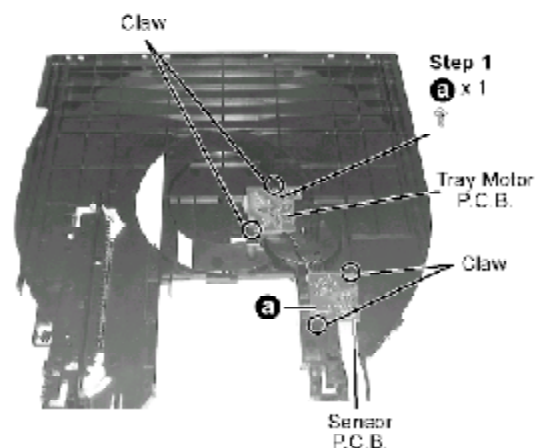


Step 2 Rotate close lock gear to direction of arrow, press claw (b) and pull out close lock gear.

15.13. Disassembly of the Tray Motor P.C.B. and Sensor P.C.B.

- Follow the (Step 1) - (Step 2) of Item 15.3.
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 3) of Item 15.7.

Step 1 Remove 2 screws.



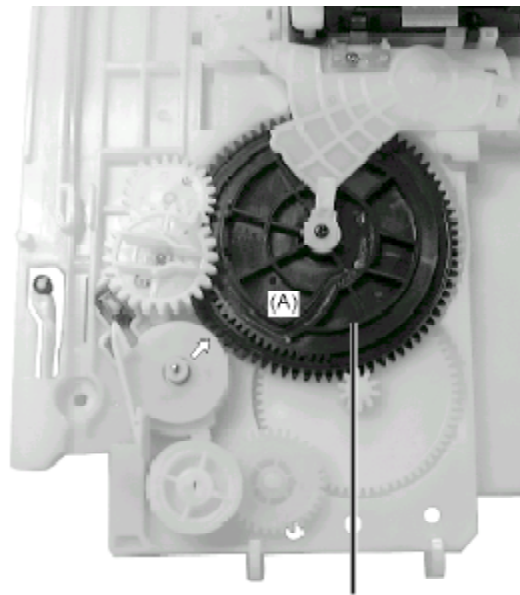
Step 2 Release 4 claws at Tray Motor P.C.B. and Sensor P.C.B..

15.14. Disassembly of the CD Traverse Unit

- Follow the (Step 1) - (Step 2) of Item 15.3.
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 3) of Item 15.7.

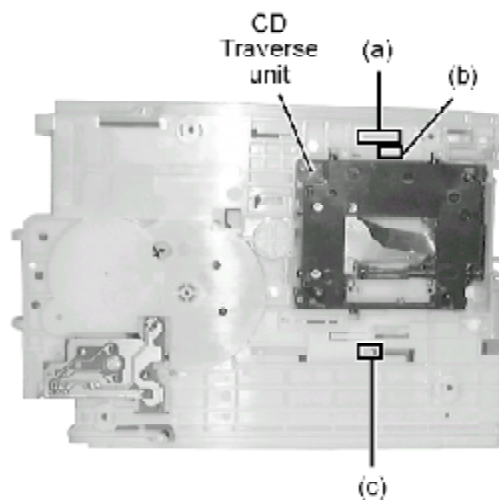
Step 1 Remove 2 screws.

Step 2 Rotate cam gear anti-clockwise. (Align at position (B) as marking on gear with arrow)



Cam gear

Step 3 Flip the base mech unit in vertical position.



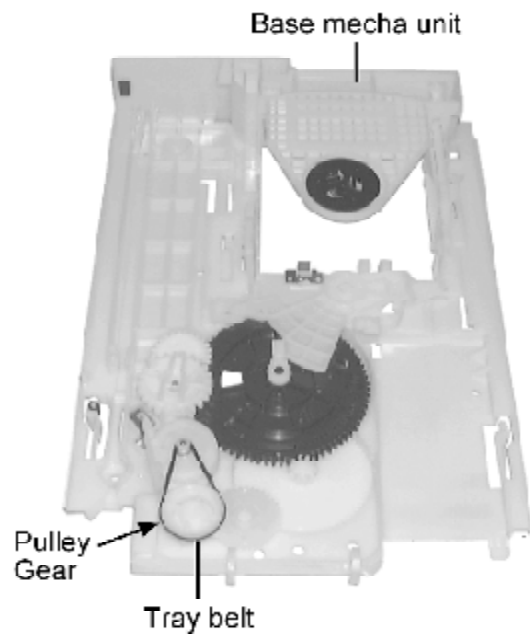
Step 4 Press upward (a), push backward (b) and press to left (c) to release CD traverse unit.

Step 5 DVD Module P.C.B. is show.

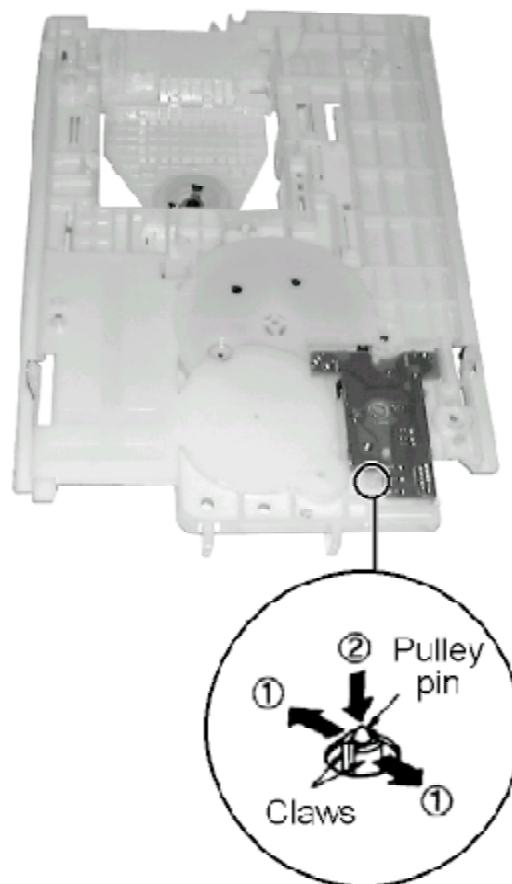
15.15. Disassembly of the Pulley Gear

- Follow the (Step 1) - (Step 2) of Item 15.3.
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 3) of Item 15.7.

Step 1 Remove of the Tray belt.



Step 2 Flip the base mecha.



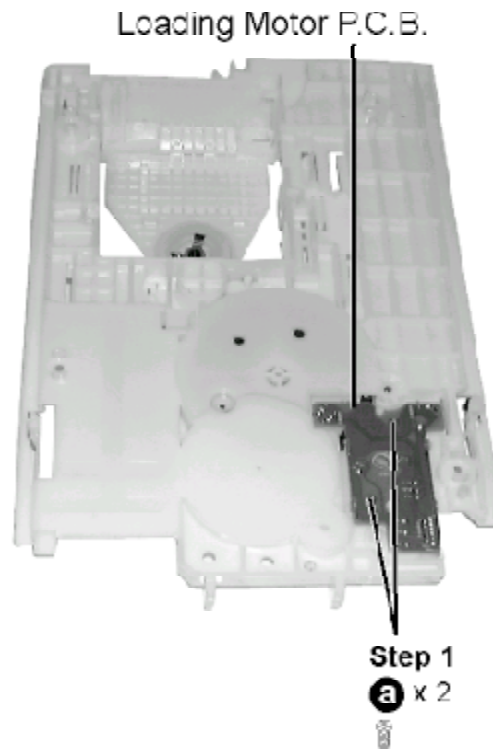
Step 3 Release the 2 claws in the direction of arrow (1), and then push the pulley pin in the direction of arrow (2).

15.16. Disassembly of Loading Motor P.C.B.

- Follow the (Step 1) - (Step 2) of Item 15.3.
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 3) of Item 15.7.

Step 1 Remove 2 screws.

Step 2 Remove 2 screws.

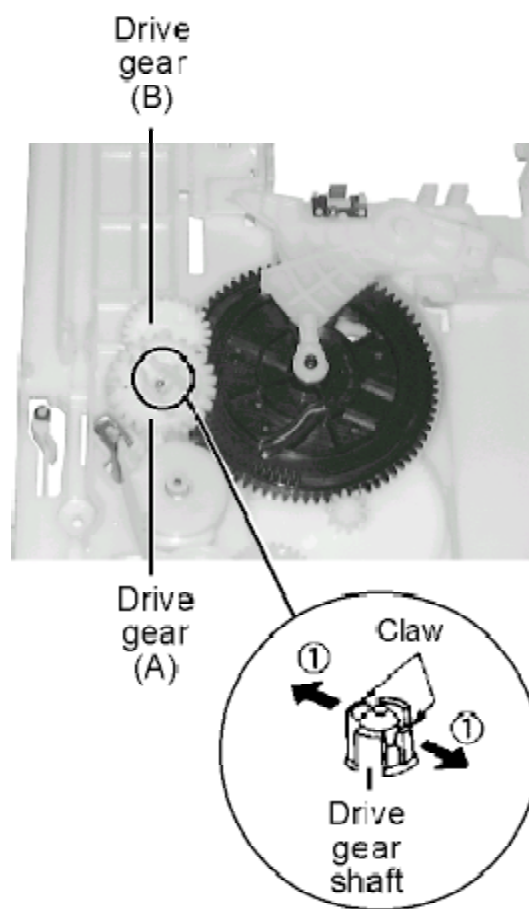


Step 3 Remove Loading Motor P.C.B.

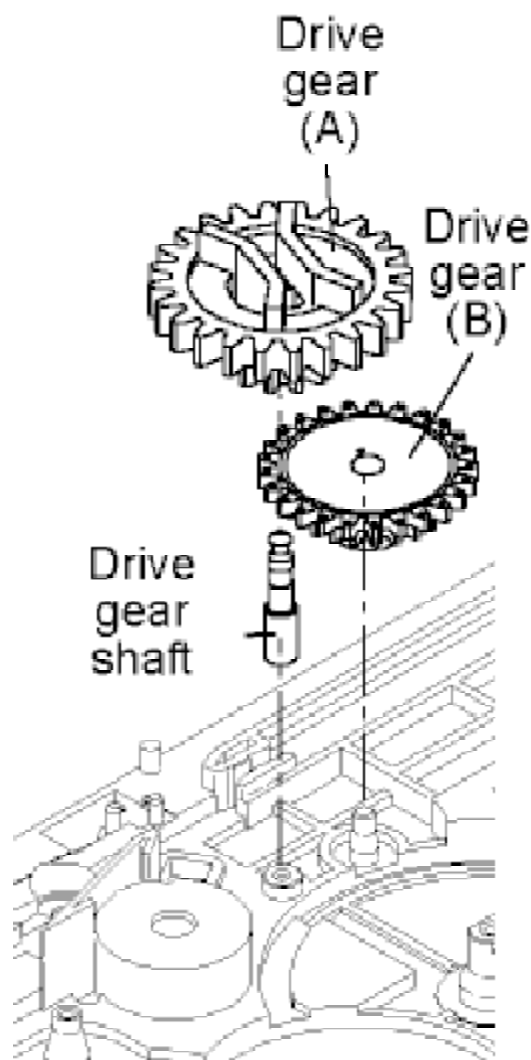
15.17. Disassembly of Drive Gear (A) & (B)

- Follow the (Step 1) - (Step 2) of Item 15.3.
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 3) of Item 15.7.
- Follow the (Step 1) - (Step 3) of Item 15.15.

Step 1 Release the claw in the direction of arrow (1), and then push drive gear shaft up.



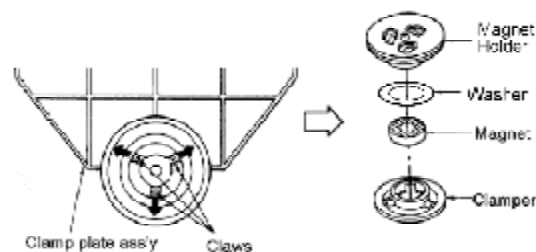
Step 2 Remove Drive Gear (A) and Drive Gear (B).



15.18. Disassembly of Magnet Holder washer, Magnet and Clamper

- Follow the (Step 1) - (Step 2) of Item 15.3.
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 3) of Item 15.7.
- Follow the (Step 1) - (Step 4) of Item 15.14.

Step 1 Release 3 claws in the direction of arrow.

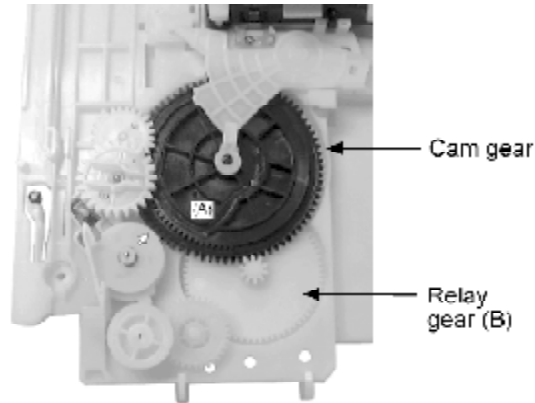


15.19. Disassembly of Cam Gear & Support Piece

- Follow the (Step 1) - (Step 2) of Item 15.3.

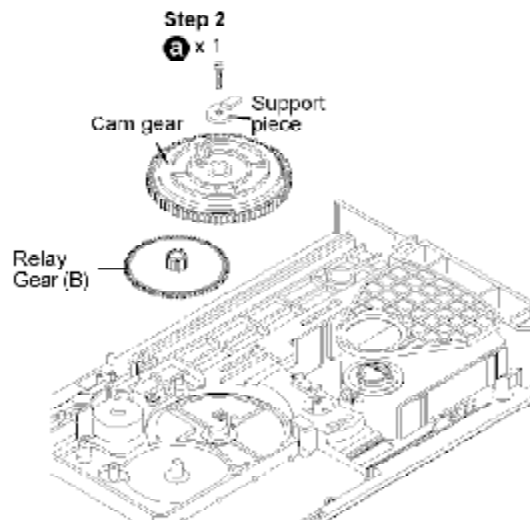
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 3) of Item 15.7.

Step 1 Rotate (A) in cam gear anti-clockwise.



Step 2 Remove 1 screw.

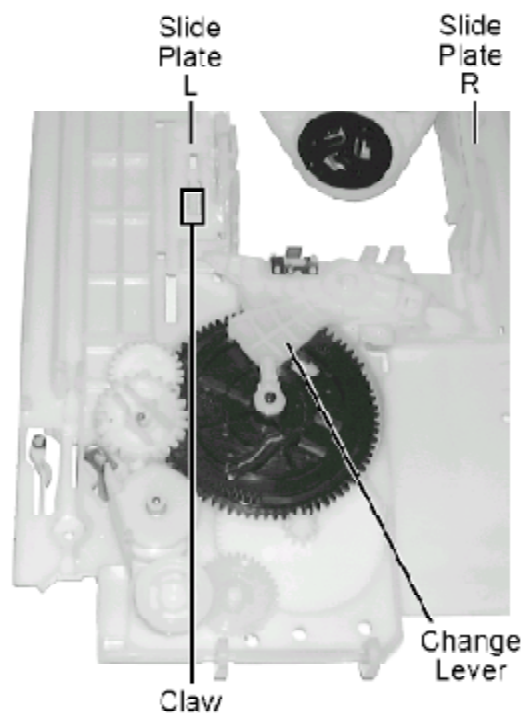
Step 3 Remove support piece.



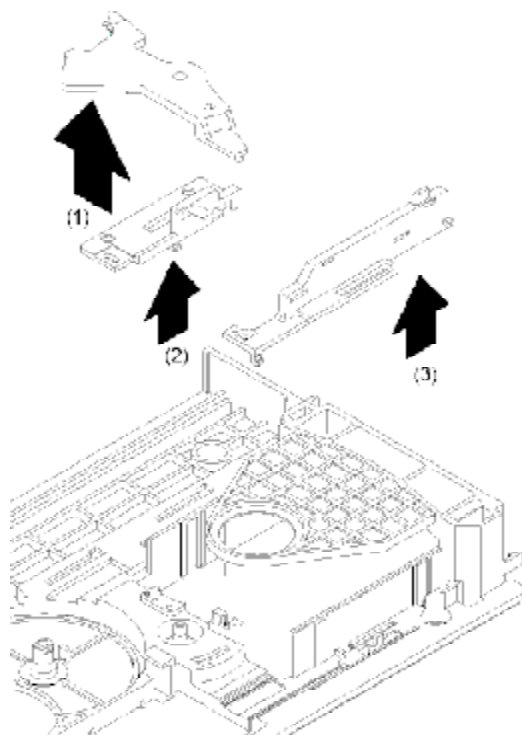
15.20. Disassembly of Slide Plate (L) & (R) and Change Lever

- Follow the (Step 1) - (Step 2) of Item 15.3.
- Follow the (Step 1) - (Step 3) of Item 15.4.
- Follow the (Step 1) - (Step 3) of Item 15.7.
- Follow the (Step 1) - (Step 5) of Item 15.19.

Step 1 Press the claw and push the Slide Plate (L) up.

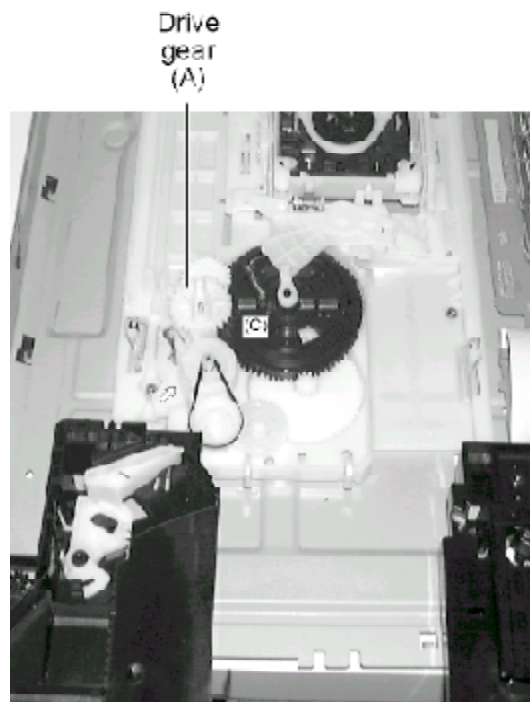


Step 2 Remove slide plate (L) & (R) and change lever as arrow shown.

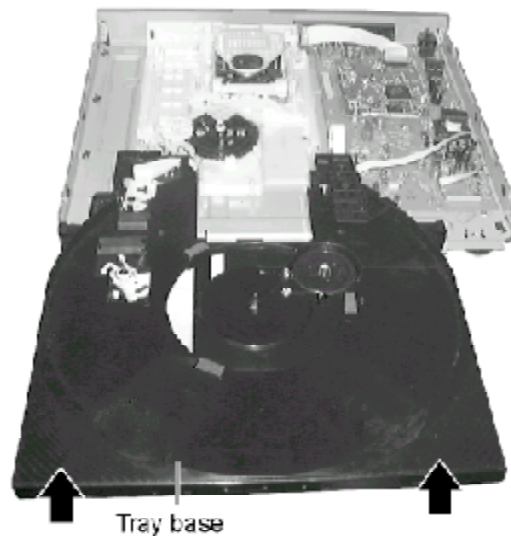


15.21. Assembly of Tray Base

Step 1 Rotate cam gear anti-clockwise. Align at position (C) as marking on gear with arrow.



Step 2 Make sure drive gear (A) at vertical position.



Step 3 Push tray base to the direction of arrow shown.

16. Service Position

16.1. Checking Procedure

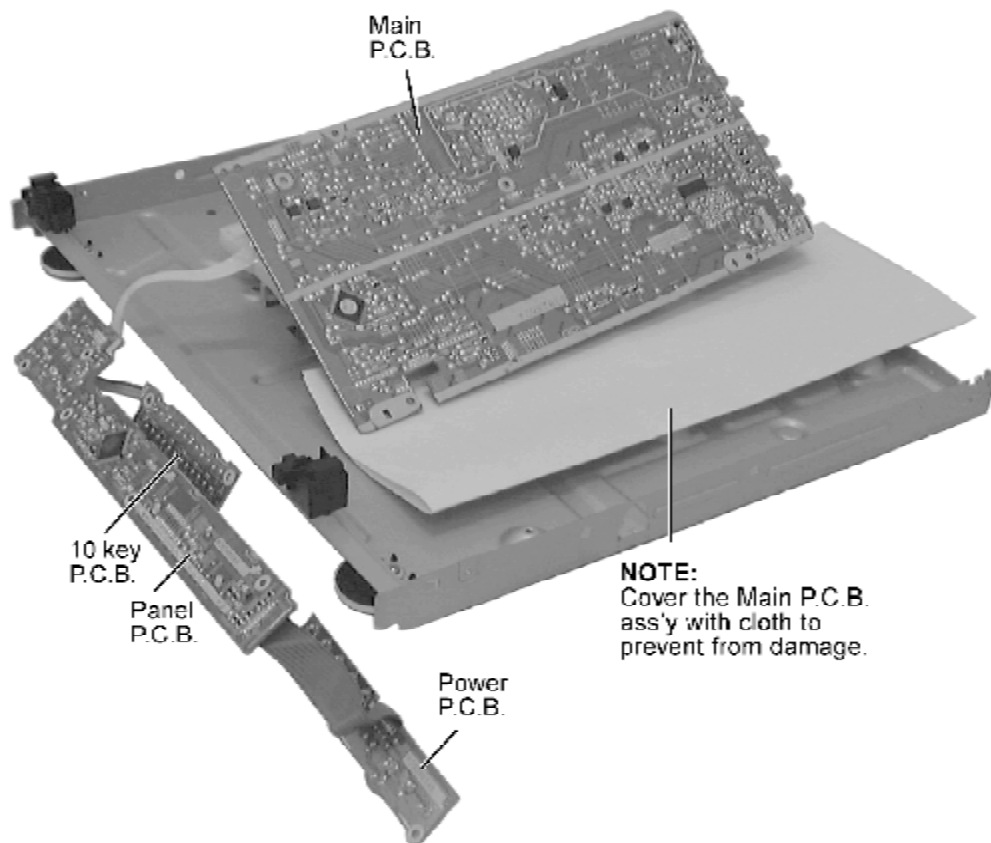
Note:

For the disassembling procedure, see Section 15.

16.2. Checking the Main P.C.B. , Panel P.C.B, 10 Key P.C.B. and Power P.C.B.

1. Disassembly of Top Cabinet.

2. Disassemble of DVD Lid.
3. Disassemble of Panel, 10 Key & Sensor P.C.B..
4. Disassemble of Rear Panel.
5. Disassemble of tray assembly.
6. Disassemble of Main P.C.B.



17. Adjustment Procedures

17.1. Service Tools and Equipment

17.1.1. Usage Equipment

Application	Name	Number
Tilt adjustment	DVD test disc	DVDT-S15 or DVDT-S01
	TORX screw driver (T6)	Available on sales route. (T6) or RFKZ0185
Inspections	Extension cable (Module P.C.B to mother P.C.B.	VUC8026
	Extension cable (Module P.C.B to mother P.C.B.	JGS0116
Others	Hanari	VFK1784
	Grease	RFKXPG641
	Drysurf	RFKXGUD24
Confirmation	CD test disc	PVCD-K06 and any other commercially available disc
	Recovery disc	RFKZD03R005

17.1.2. Important points in adjustment

17.1.2.1. Important points in Optical Adjustment

- Before starting optical system adjustment, be sure to take anti-static measures.
- Optical adjustment (optical pickup tilt adjustment) is required after following parts are replaced:
 1. Optical pickup unit.
 2. Spindle motor assembly unit.
 3. Optical pickup peripherals (such as a rail)

Note:

Optical adjustment is not necessary after replacement of other parts inside the traverse unit. However, may require when picture deterioration is detected. Optical adjustments cannot be applied to the inside of optical pickup. When a traverse unit is replaced, the adjustment is not necessary.

17.1.3. Storing and Handling Test Discs

Surface precision is vital for DVD test discs. Be sure to store and handle them carefully.

- Do not place discs directly onto the workbench, etc, after use.
- Handle the discs carefully in order to maintain their flatness. Place them into their case after use and store them vertically. Store discs in a cool place where they are not exposed to direct sunlight or air from air conditioned.
- Accurate adjustment will not be possible if the disc is warped when placed on a surface made of glass, etc. If this happens, use

a new test disc to make optical adjustments.

- If adjustment is done using a warped disc, the adjustment will be incorrect and some discs will not be playable.

17.1.4. Optical Adjustment (Optical Pickup Tilt Adjustment)

Measurement point	Adjustment point	Mode	Disc
	Tangential adjustment screw / Tilt adjustment screw	T1 (inner track) replay / T43 (outer track) replay	DVDT-S15 or DVD
Measuring equipment		Adjustment value	
None (LCD display of the player is used.)		Adjust that jitter value becomes minimum.	

17.1.4.1. Adjustment Procedure

1. While the player is stopped and no disc is inserted, select the

DVD function. Press and hold down the  button on the player and the number button, “5” on the remote controller unit.

2. Check that “J_xxx_yyy_zz” is appearing on the display.

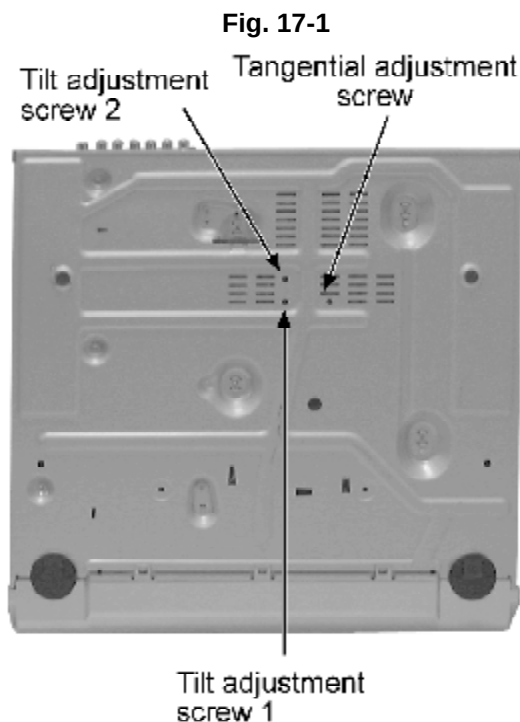
For your information:

The values, “yyy” and “zz” are not associated to jitter value. / “yyy” indicates the frequency of error occurrence. / “zz” indicates the focus drive value.

Note:

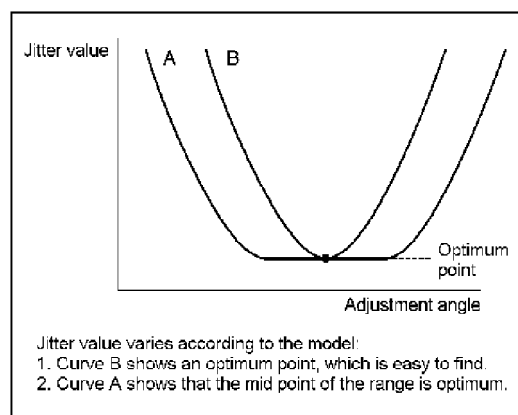
Jitter value appears on the display.

3. Replay T01 (inner track) of the test disc.
4. Adjust till the jitter value becomes minimum, using a tangential adjustment screw. <Fig. 17-1>
5. Replay T43 (outer track) of the test disc.
6. Adjust till the jitter value becomes minimum, using a tilt adjustment screw 1. <Fig.17-1>
7. Replay T43 (outer track) of the test disc.
8. Adjust till the jitter value becomes minimum, using a tilt adjustment screw 2.<Fig. 17-1>
9. Adjust till the jitter value becomes, using the tilt adjustment screws 1 and 2 alternatively.



17.1.4.2. Tips

1. Apply the tangential adjustment first and then the tilt adjustment.
2. Repeat the adjustment a couple of times to find the optimum point.
3. Complete with the tilt adjustment.



17.1.4.3. Check After Adjustment

Replay test discs or other commercial discs in order to confirm that no picture deterioration or sound skipping is detected in the inner, middle, and outer tracks. After this, fasten each adjustment screw securely using a screw lock.

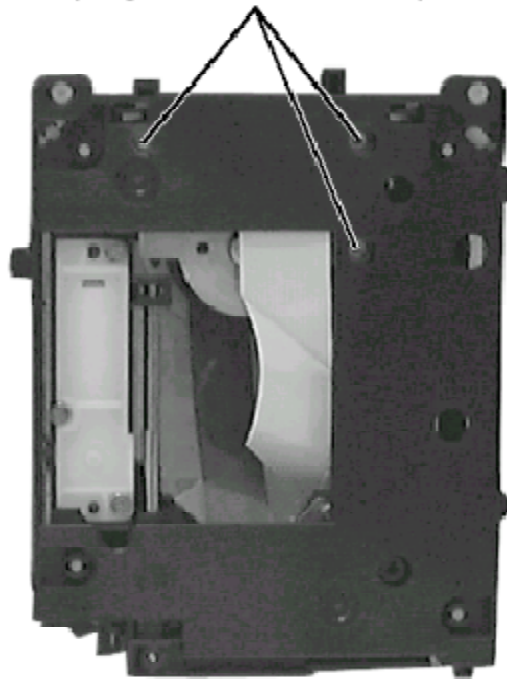
17.1.4.4. Procedure for Screw Lock

1. After adjustment, remove the top cover, clamper base, disc tray and then traverse unit.

2. Place the traverse unit upside down, and fasten the adjustment screws with a screw lock. <Fig. 17-2>
3. After fastening the screws, assemble in order of the traverse unit, disc tray, clamper base, and then top cover.

Fig. 17-2

Screw lock
(adjustment screw)



18. Illustration of IC's, Transistors and Diodes

19. Block Diagram

20. Schematic Diagram

(All schematic diagrams may be modified at any time with the development of the new technology)

Note:

S6511

: O/C switch

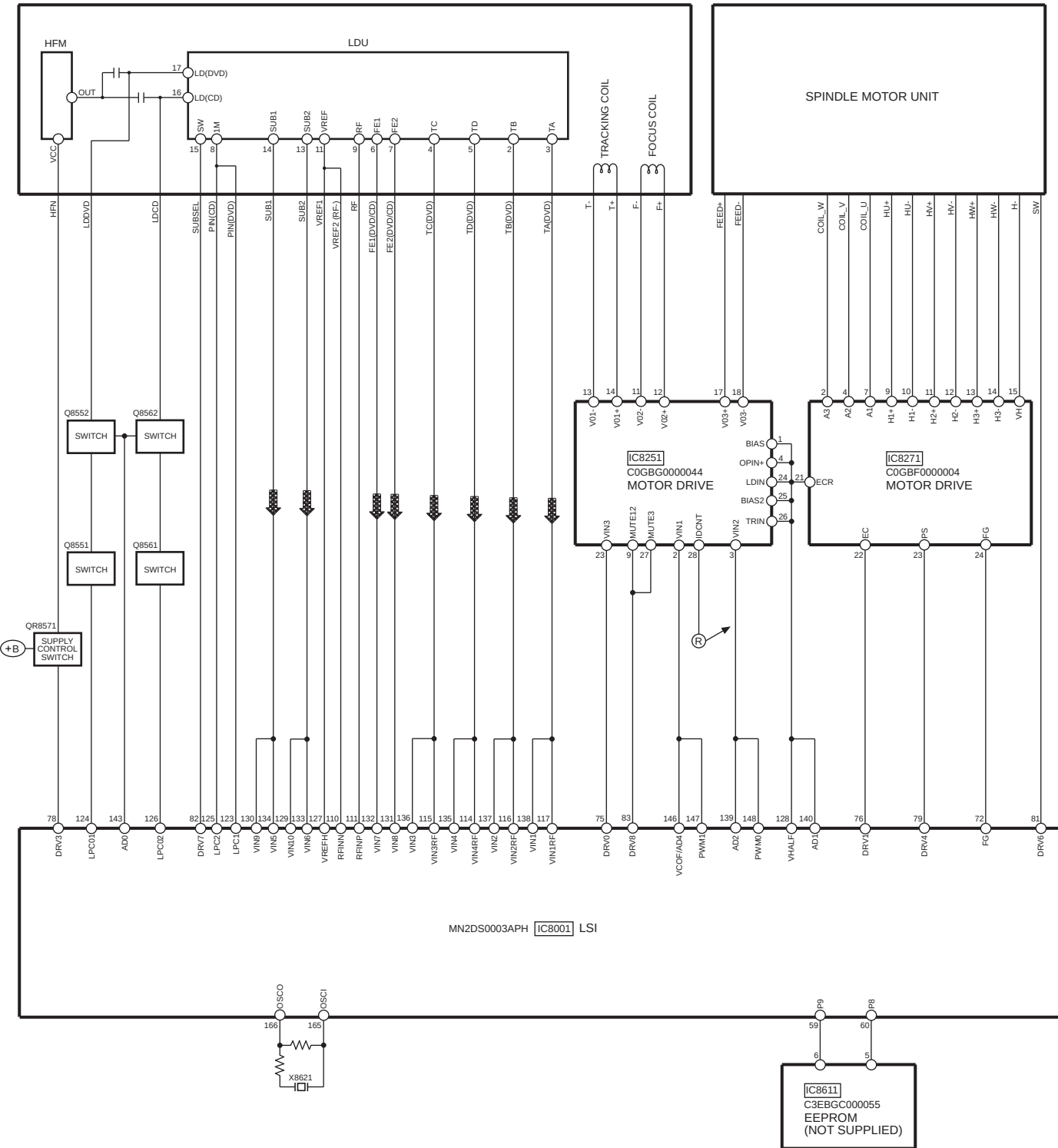
S6521

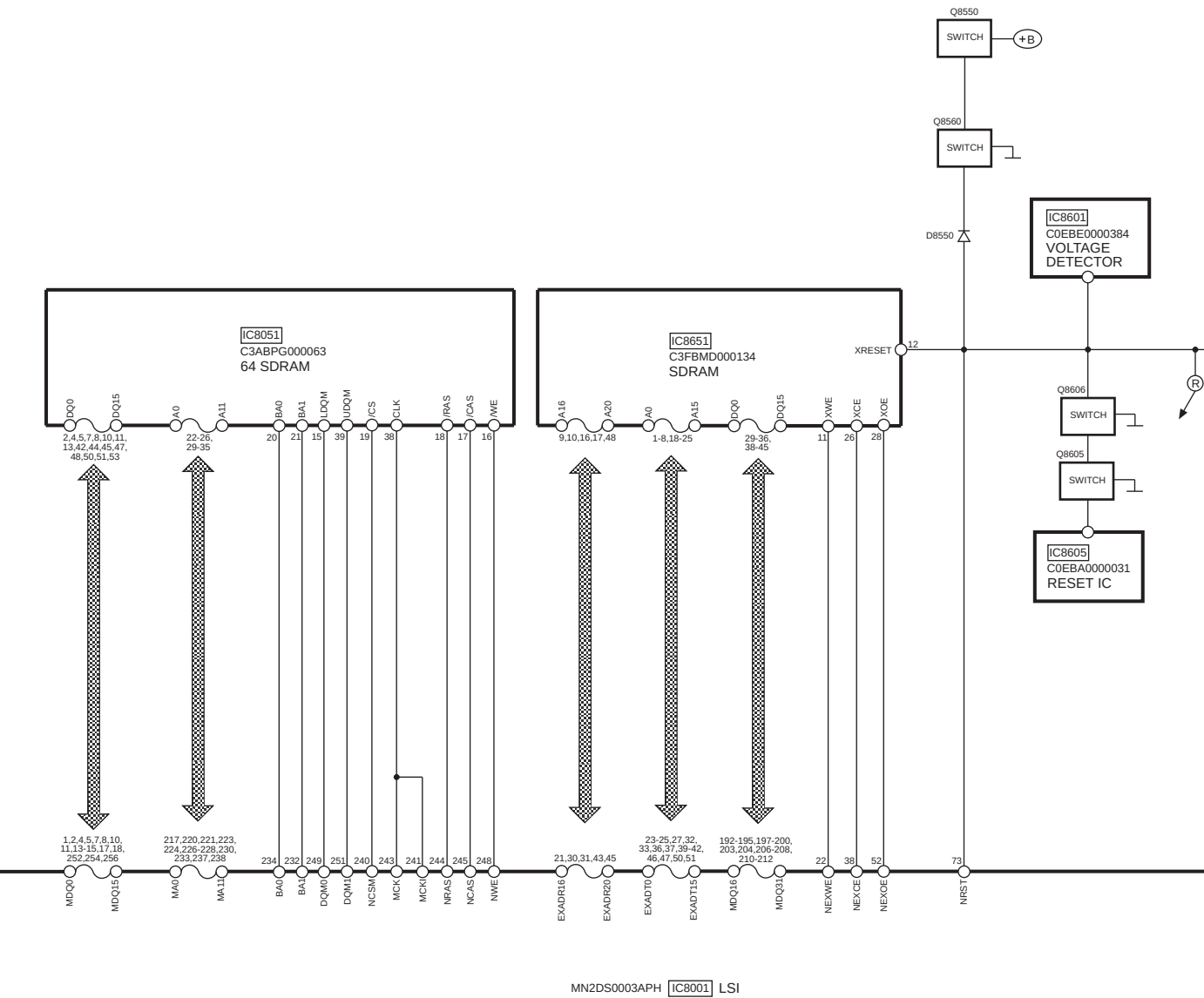
: Disc - EXC switch

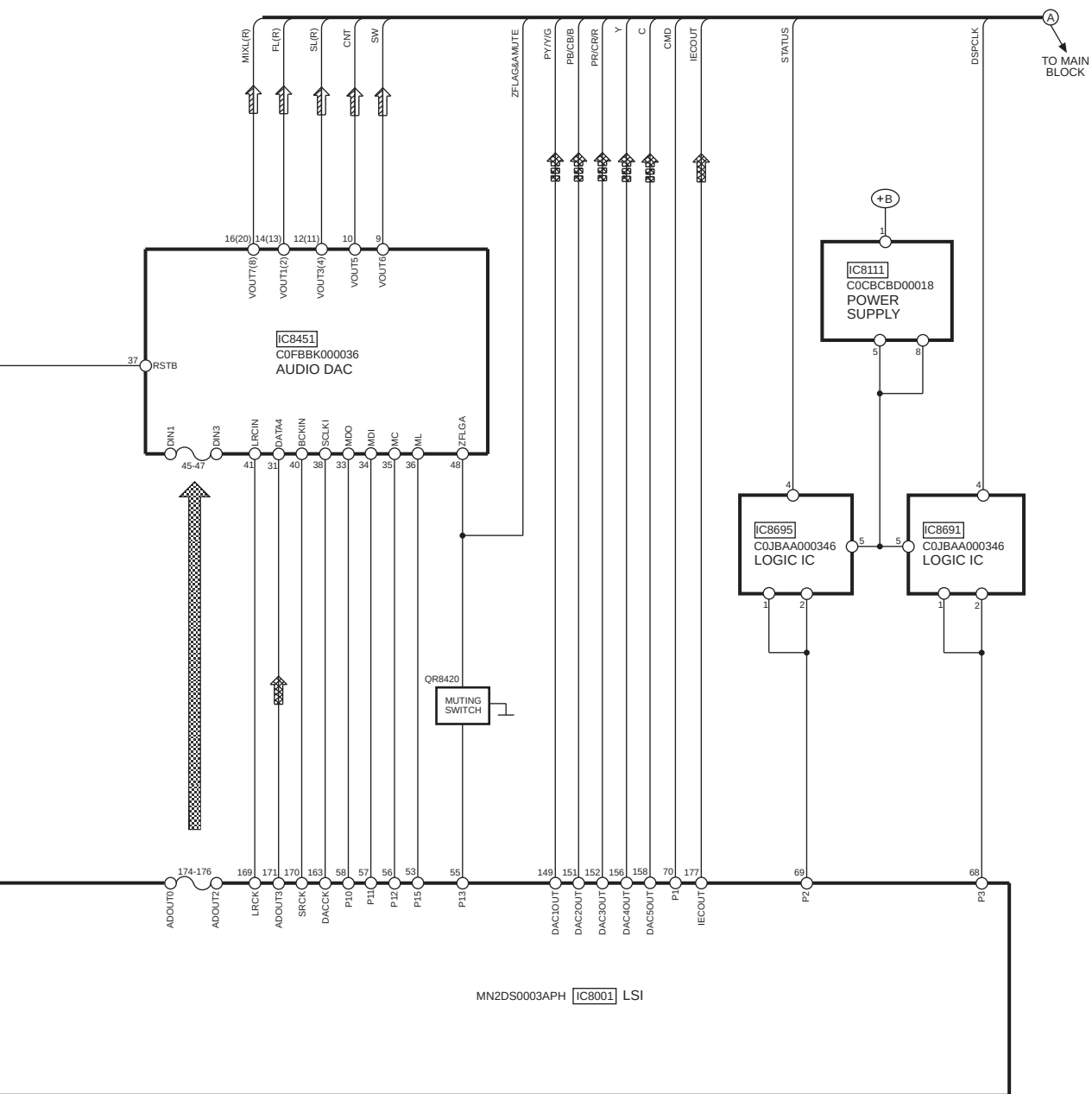
S6522

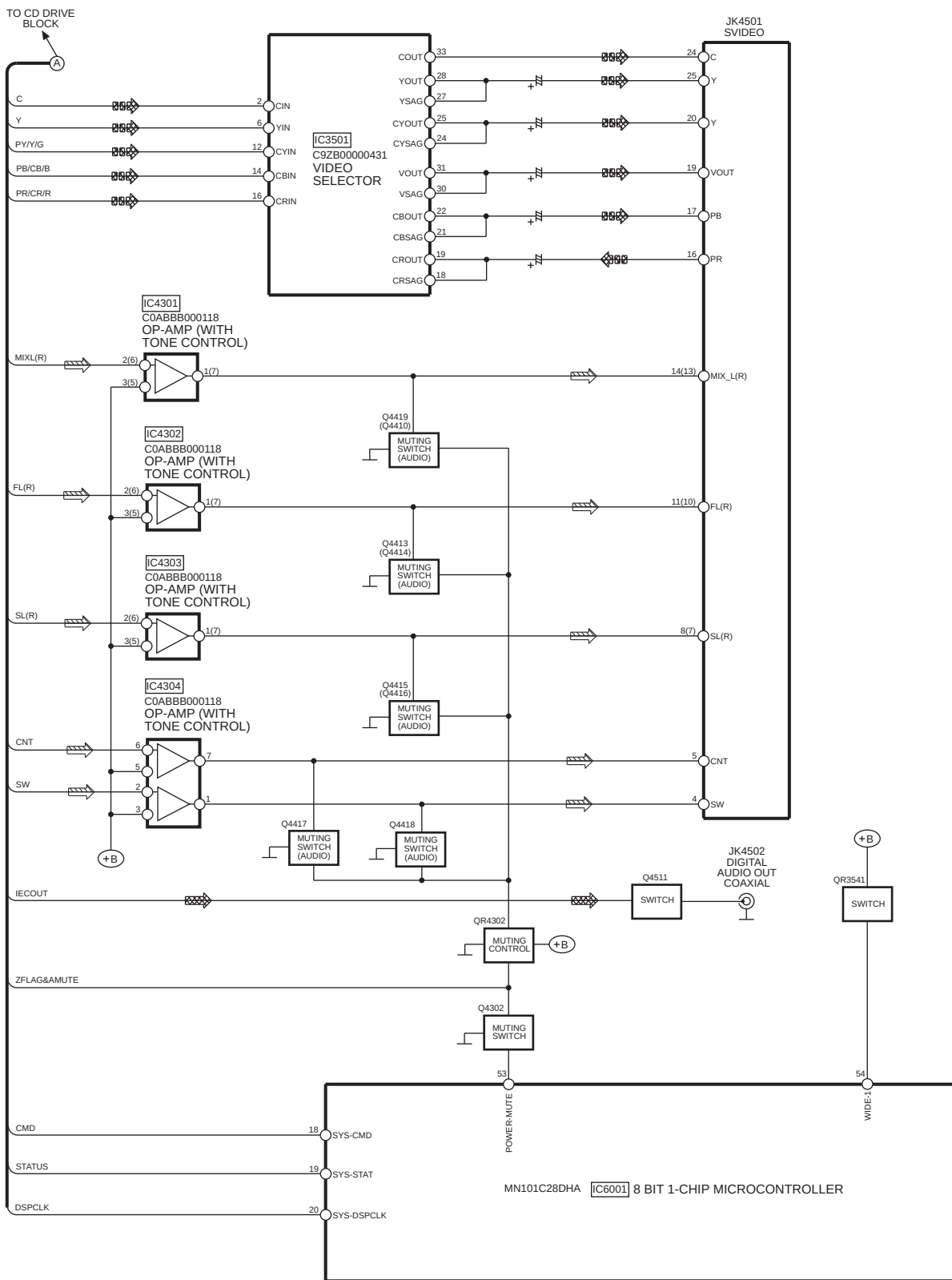
: Disc Skip switch

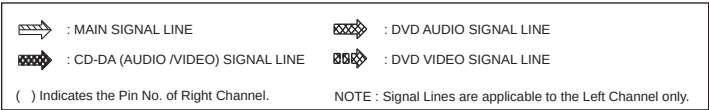
OPTICAL PICKUP

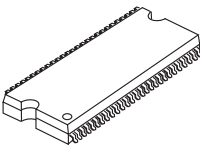
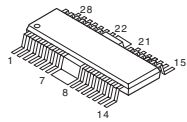
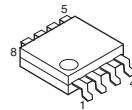
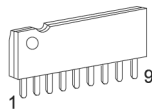
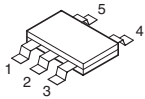
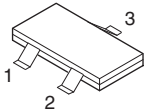
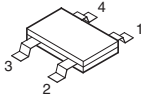
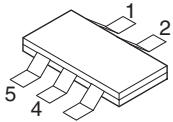
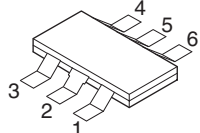
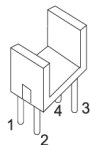
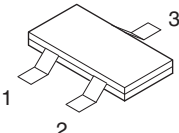
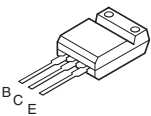
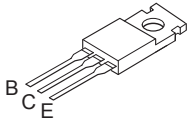
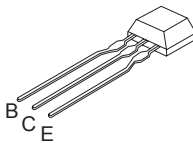
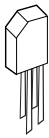
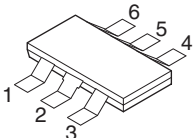
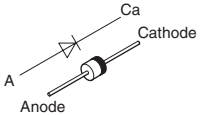
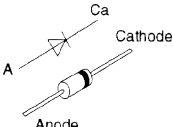
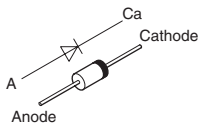
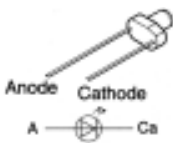
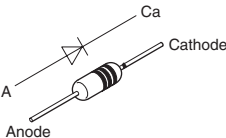
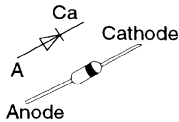
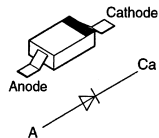










C3ABPG000063 	C0GBG000033 C0GBF000004 	C0ABBB000118 	C0GAG0000007 	C0JBAA000001 C0EBE0000070 C0DAEMZ00001 C0EBA0000031 	UNR521F00L C0EBE0000384 2SB1219AHL 
B0EDKT000002 	XN0150100L 	XN0431100L 	B3NAA0000068 	2SD132800L 2SD0601AHL 2SD1819A0L UNR221300L UNR221200L UNR221100L UNR521200L	2SB09700RL 
2SB14170JA 	MIP0244SPSCF 	2SA1309ARA 	B3NA0000027 	B1BCCD000013 	B1DDCC000009 
B0JAMG000010 	B0JAME000033 	B0EAKM000085 	B3ABA0000397 	MAZ42000LF MAZ40910HF MAZ41000HF MAZ41600LF 	
MA2J72800L B0JAME000037 	MA2J11100L 				

A

B

C

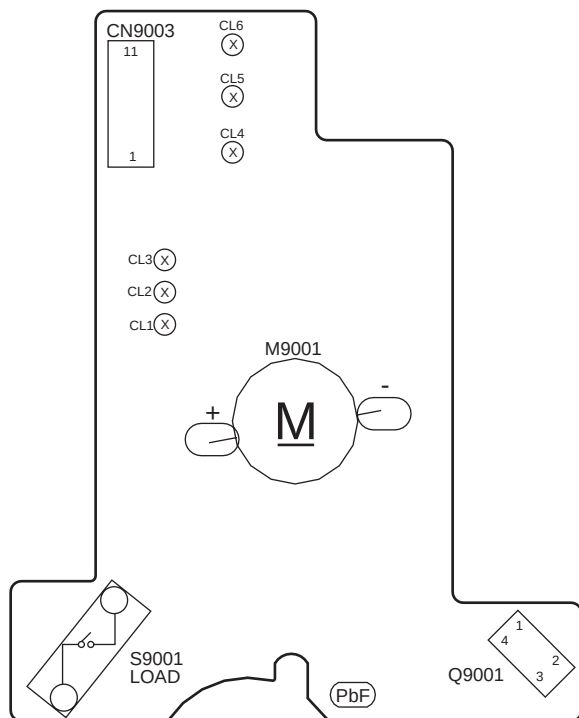
D

E

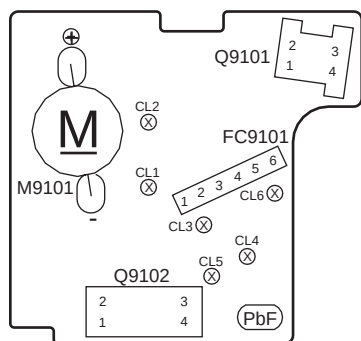
F

G

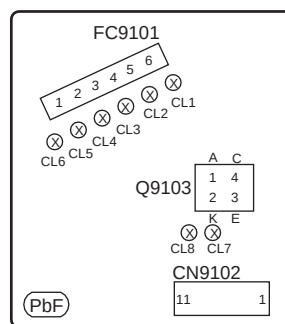
H LOADING MOTOR P.C.B (REP3465A)



G TRAY MOTOR P.C.B (REP3466A)



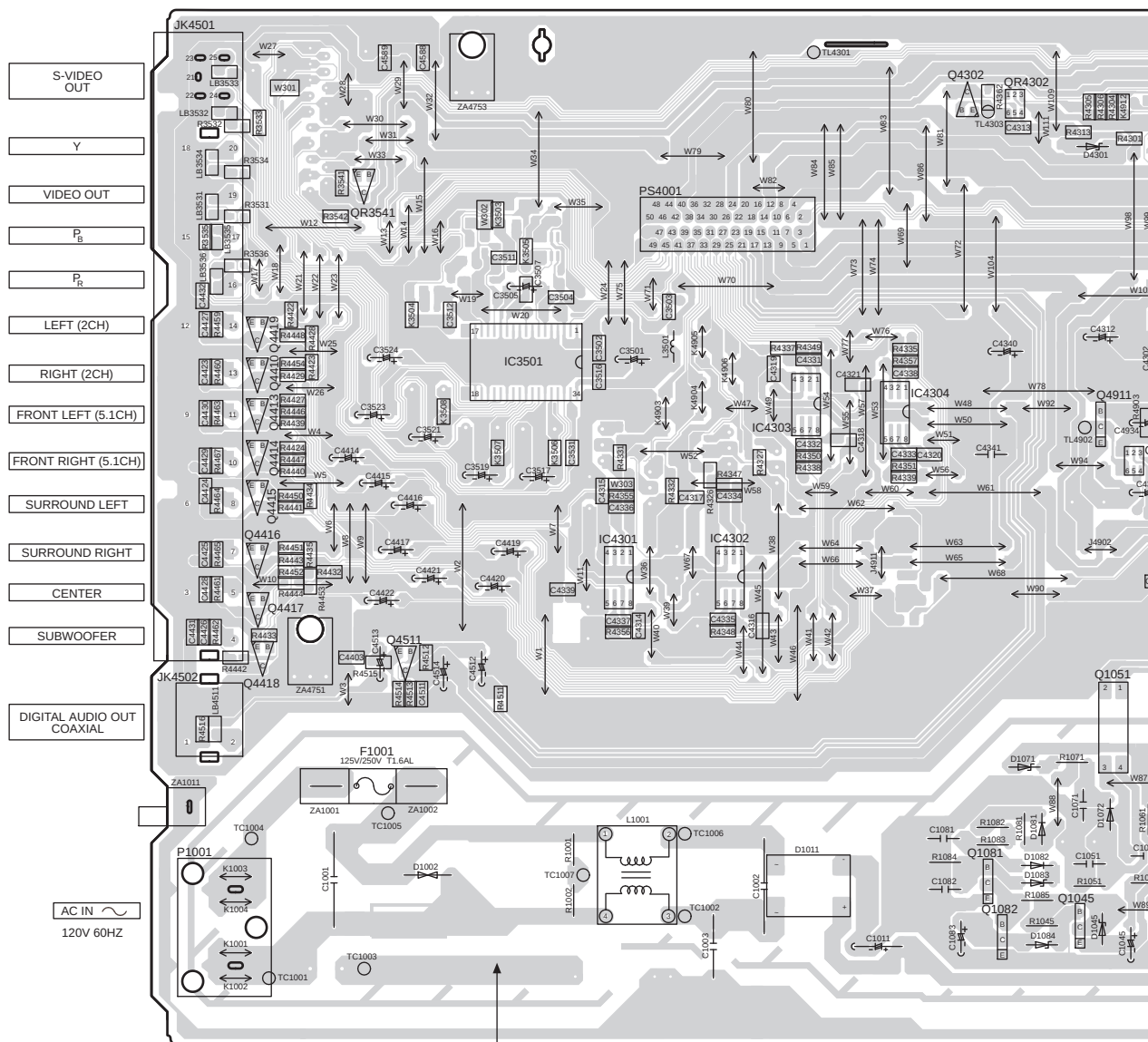
F SENSOR P.C.B (REP3466A)



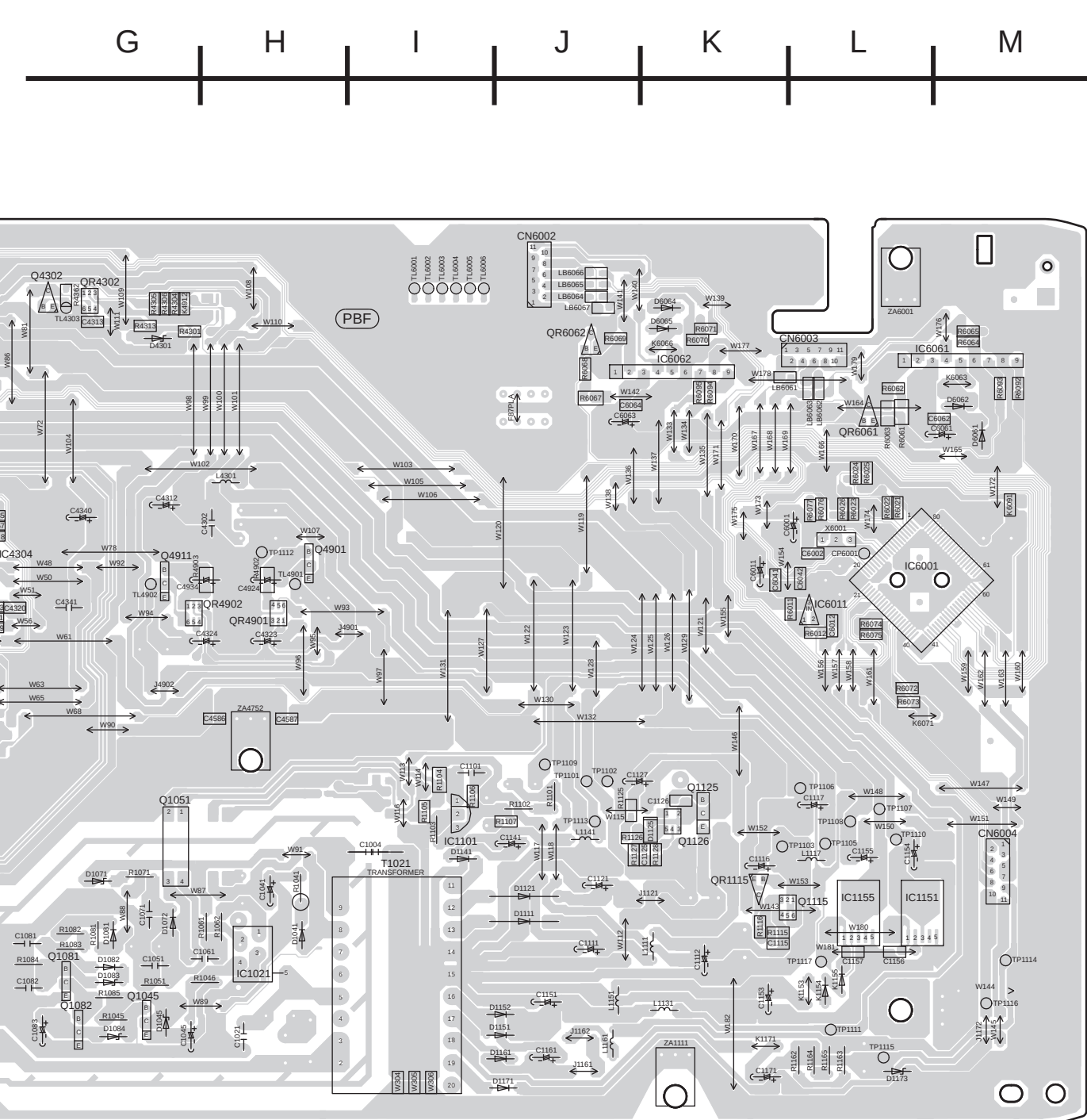
(SIDE A)

(SIDE B)

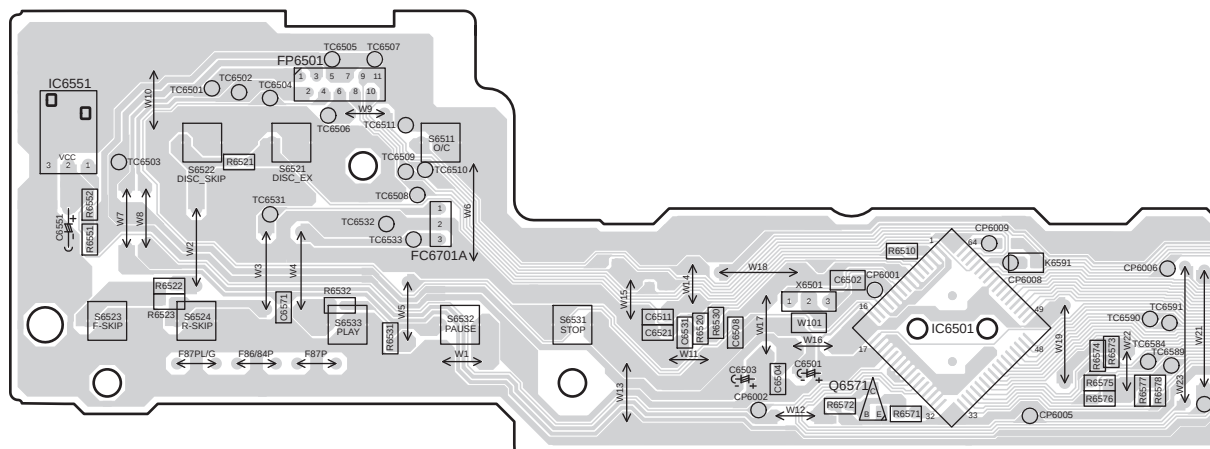
B MAIN P.C.B (REP3666A)



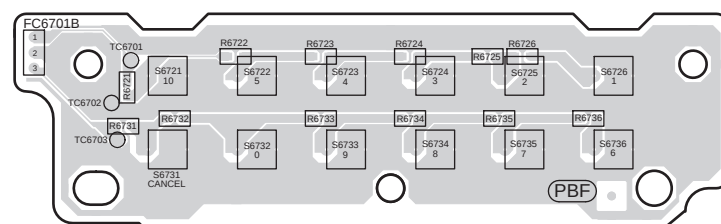
CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE.
PLEASE DO NOT TOUCH THIS P.C.B



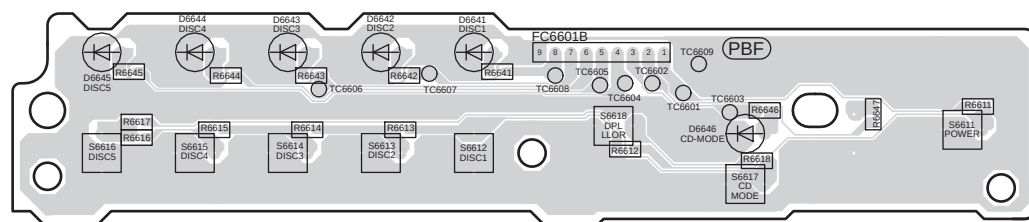
C PANEL P.C.B (REP3667A)



D POWER P.C.B (REP3667A)



E10 KEY P.C.B (REP3667A)



G

H

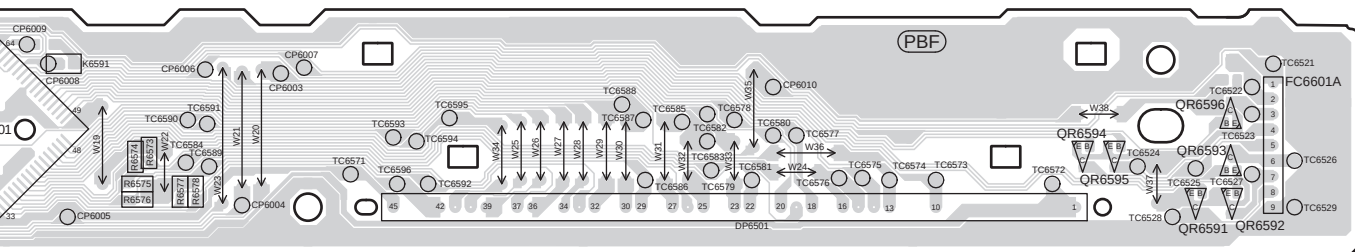
I

J

K

L

M

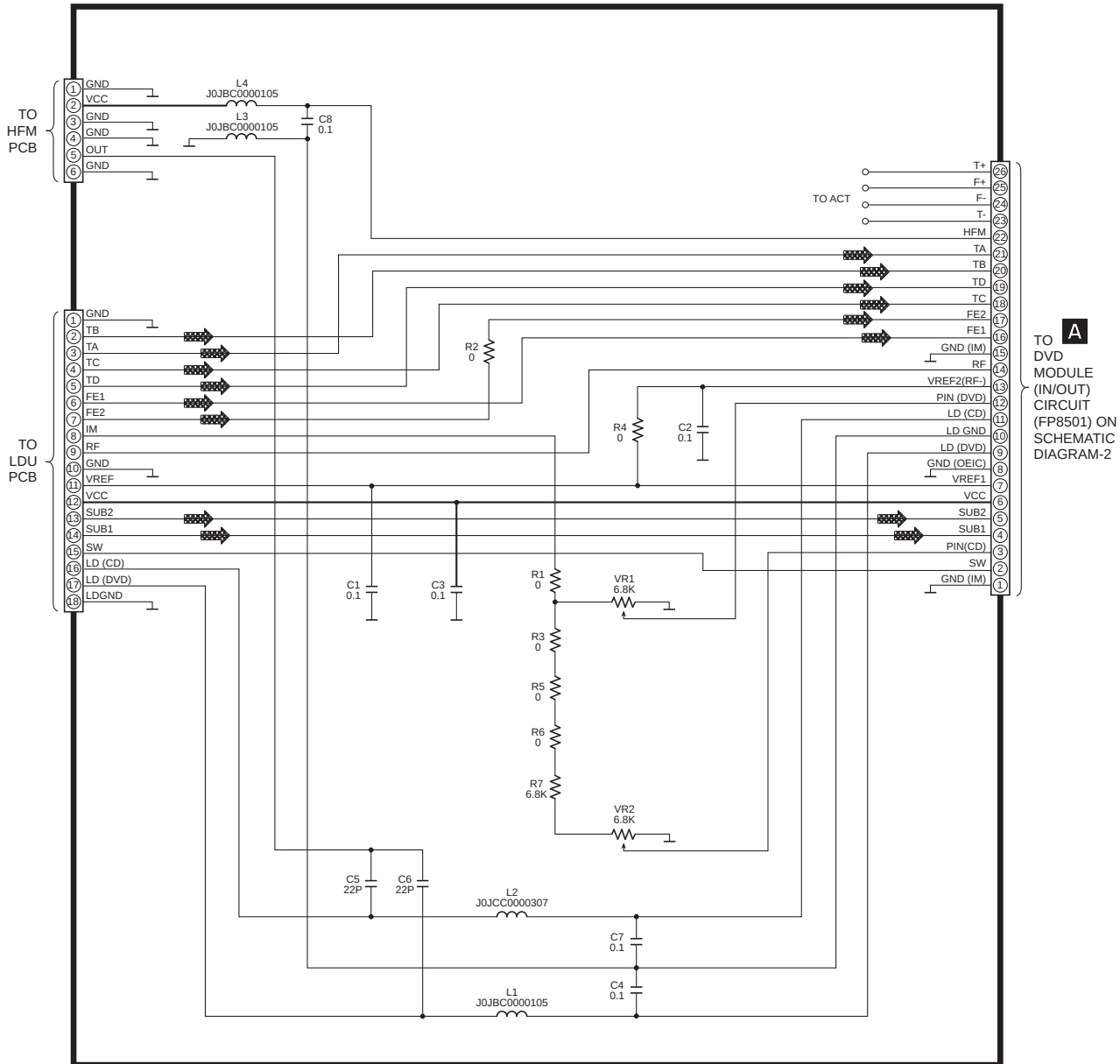




OPTICAL PICKUP UNIT CIRCUIT

— : +B SIGNAL LINE

▨ : CD-DA SIGNAL LINE

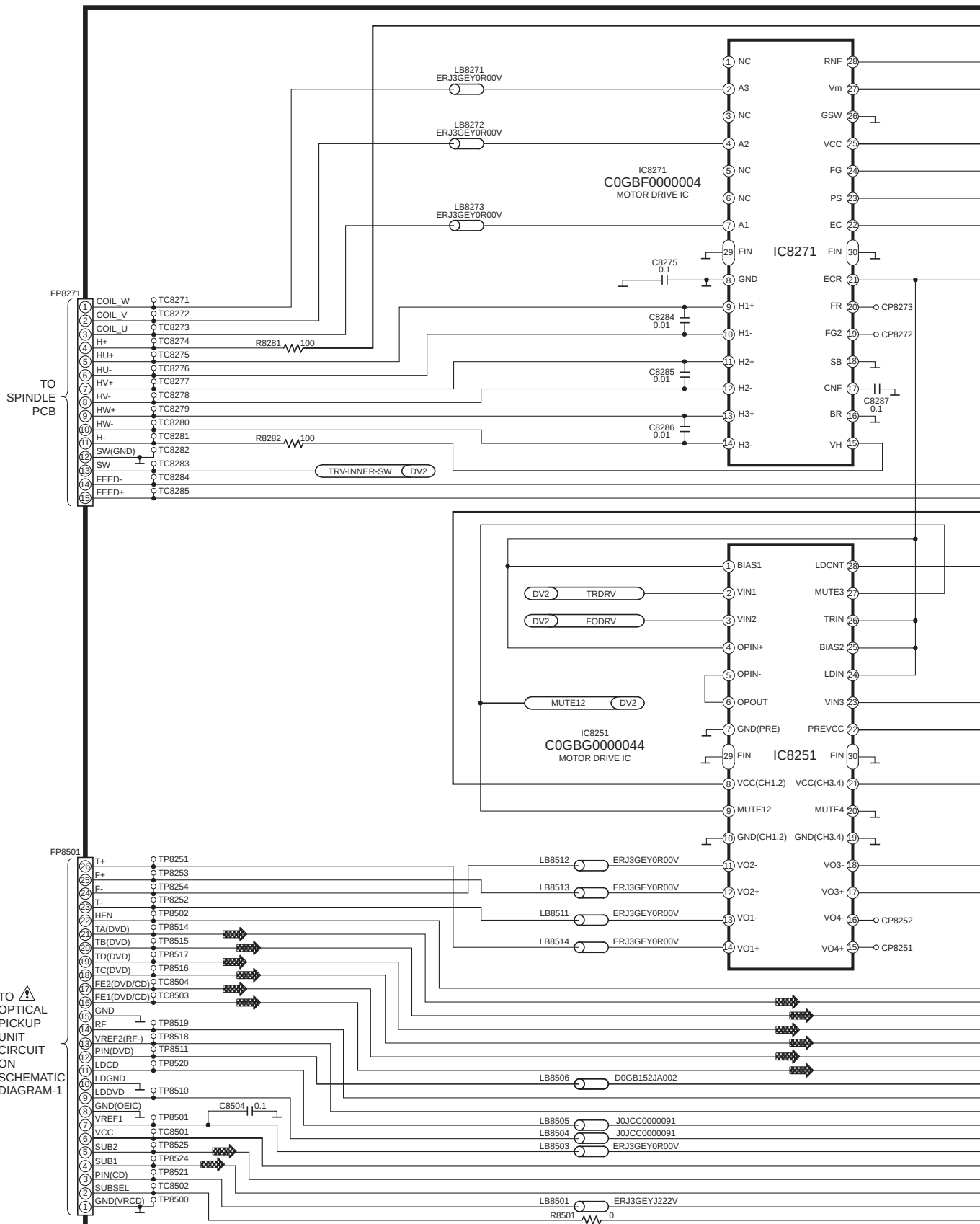


A

DVD MODULE (IN/OUT) CIRCUIT

— : +B SIGNAL LINE

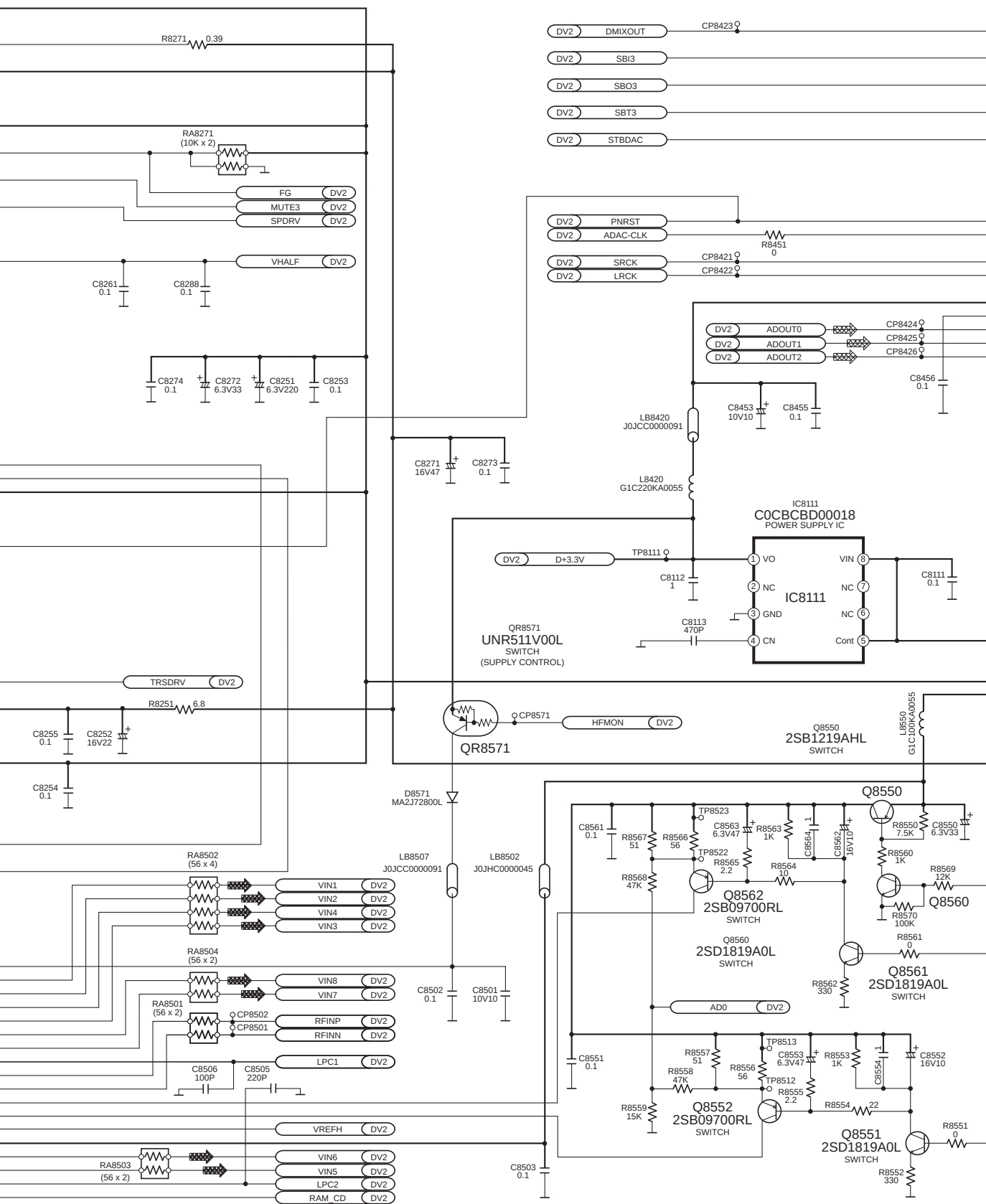
▨ : CD-DA SIGNAL LINE



DVD MODULE (IN/OUT) CIRCUIT

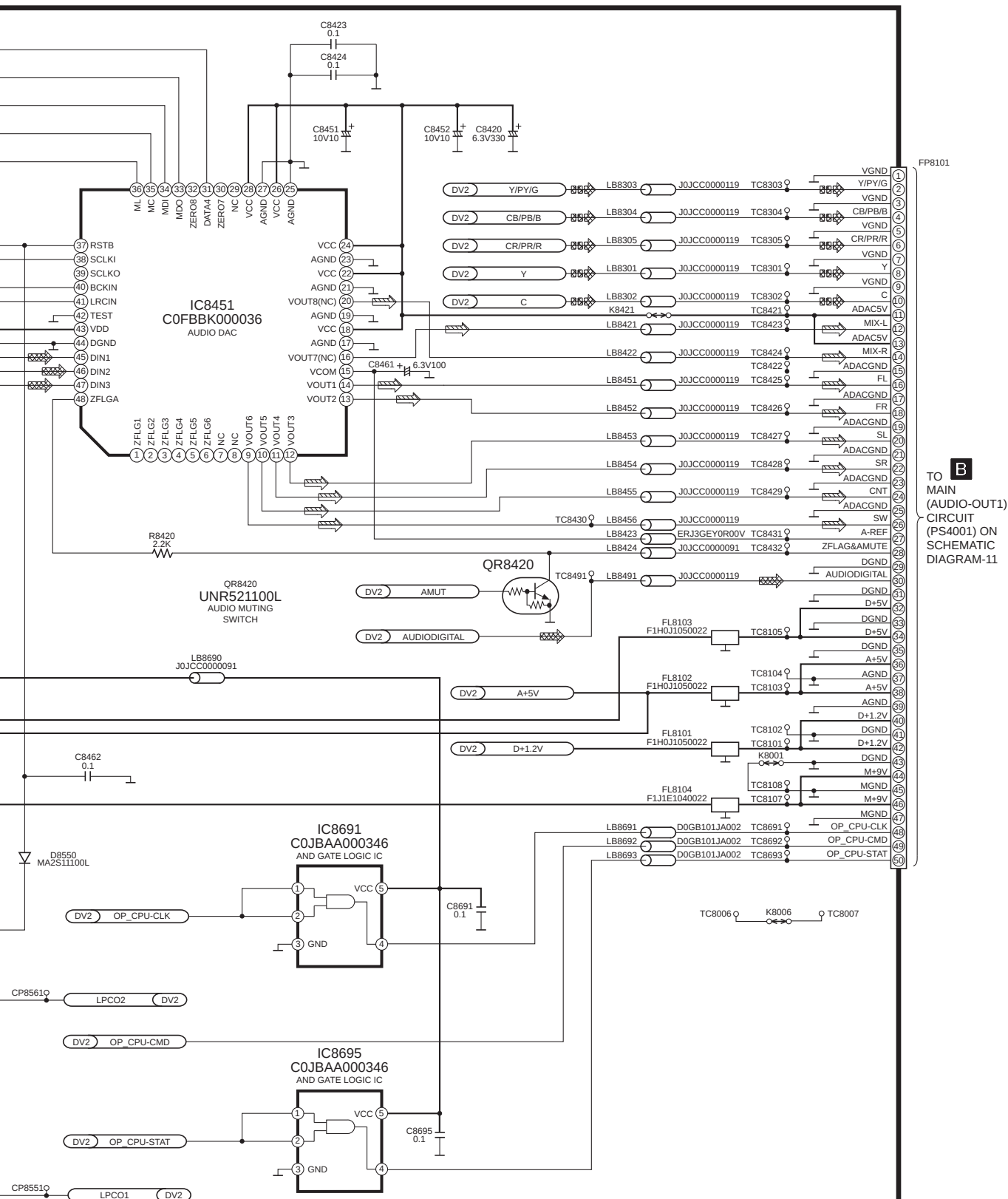
 : CD-DA SIGNAL LINE

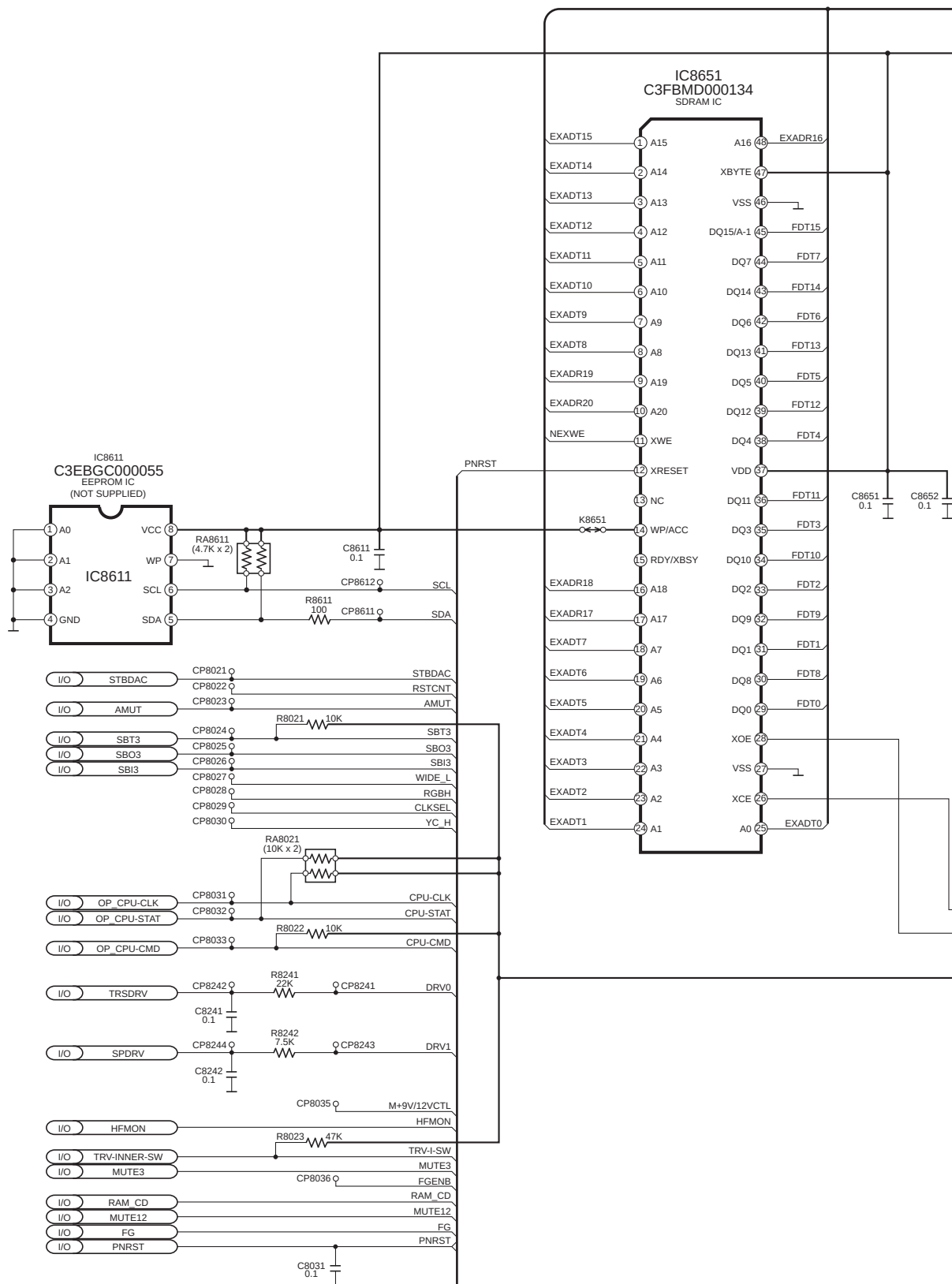
———— : +B SIGNAL LINE

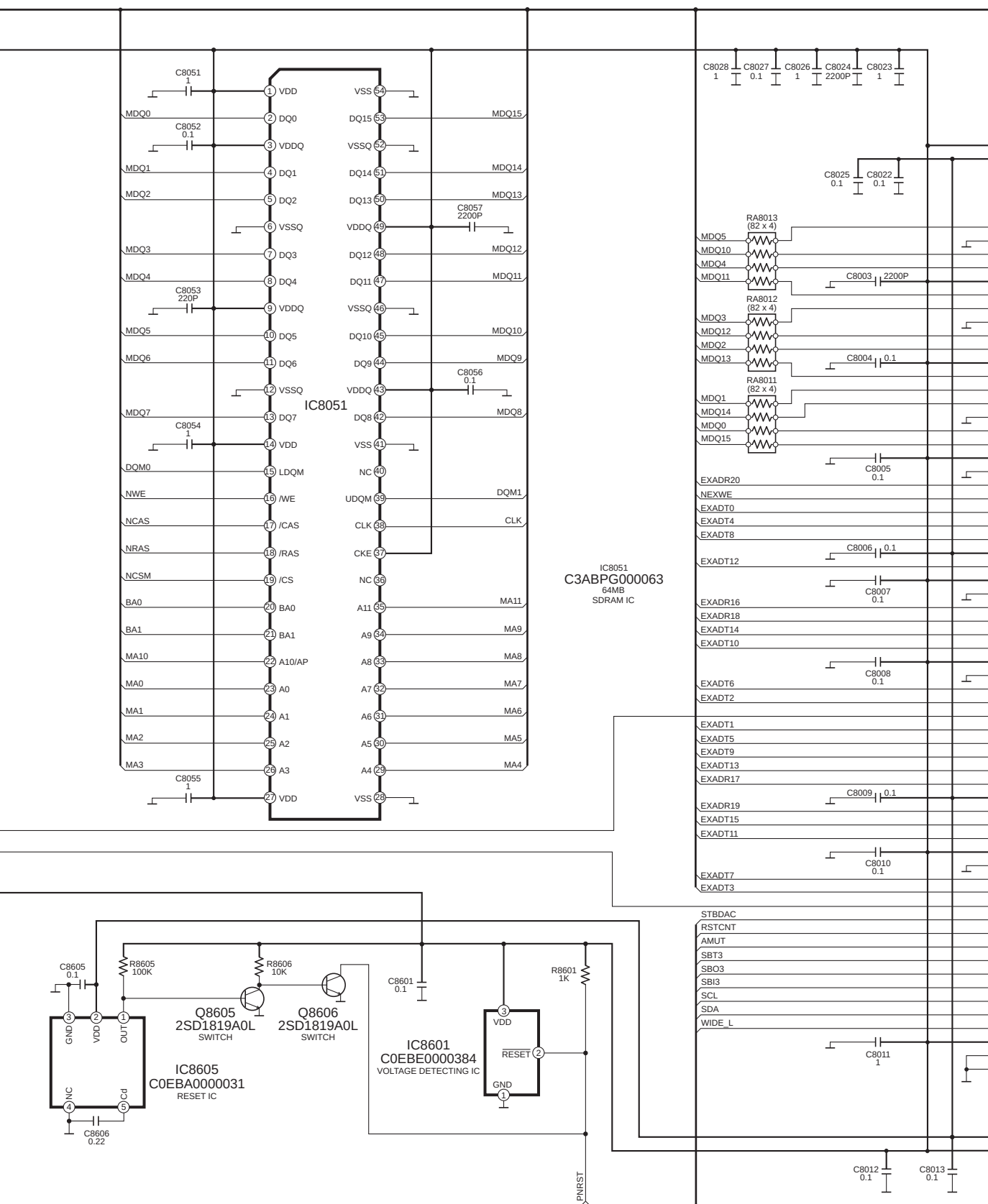


DVD MODULE (IN/OUT) CIRCUIT

———— : +B SIGNAL LINE

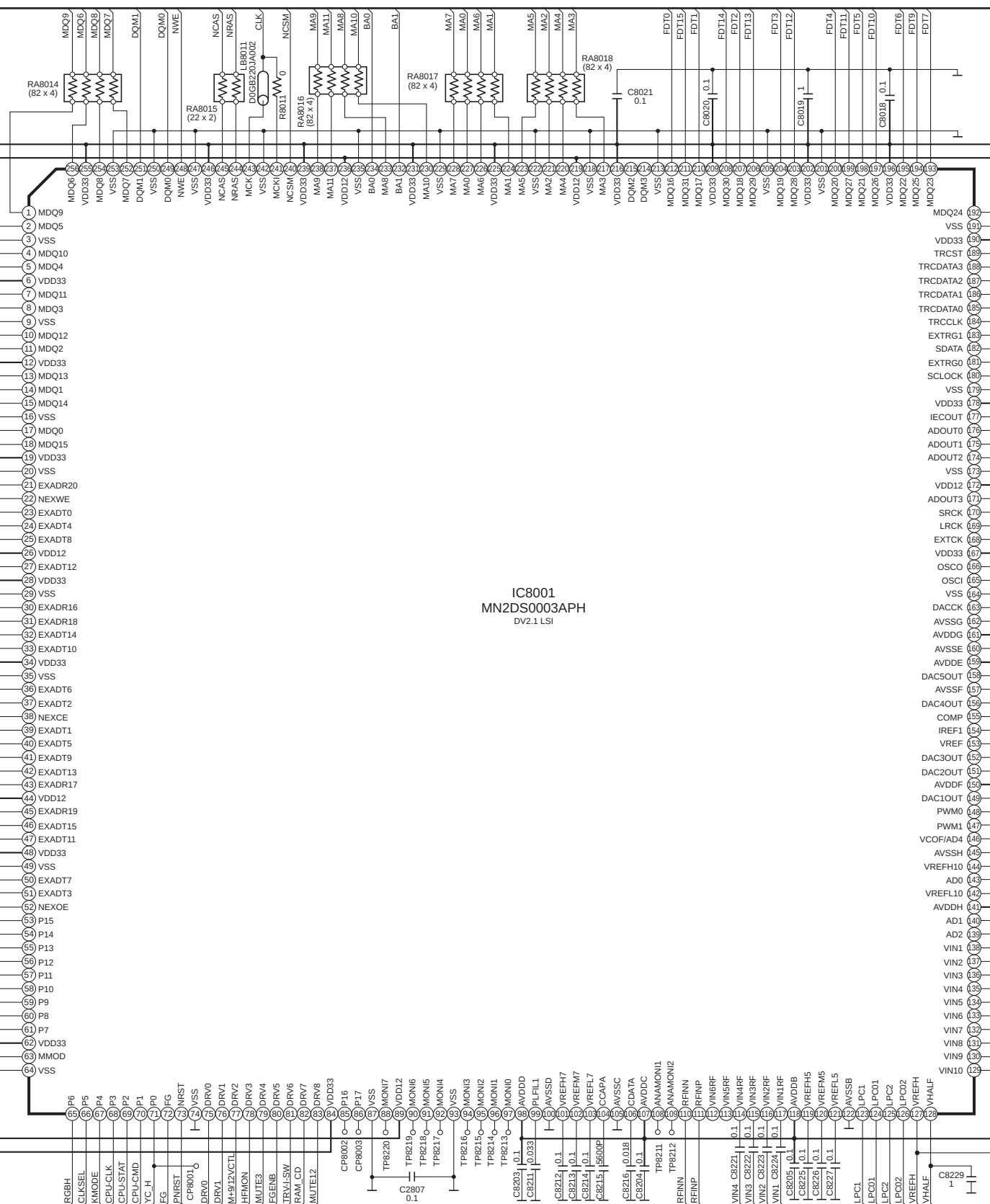
 : DVD VIDEO SIGNAL LINE





DVD MODULE (DV2) CIRCUIT

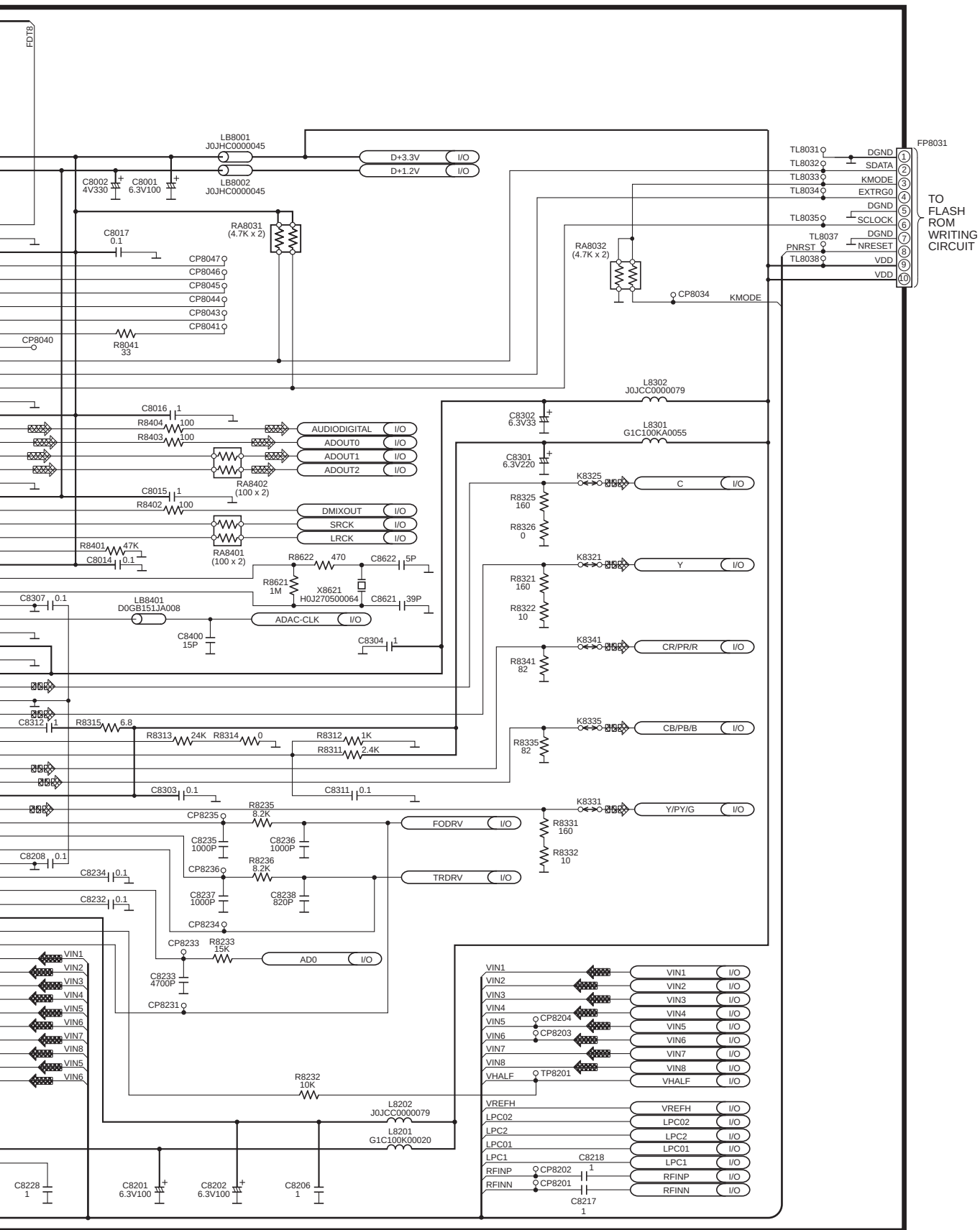
———— : +B SIGNAL LINE



DVD MODULE (DV2) CIRCUIT

 : DVD VIDEO SIGNAL LINE

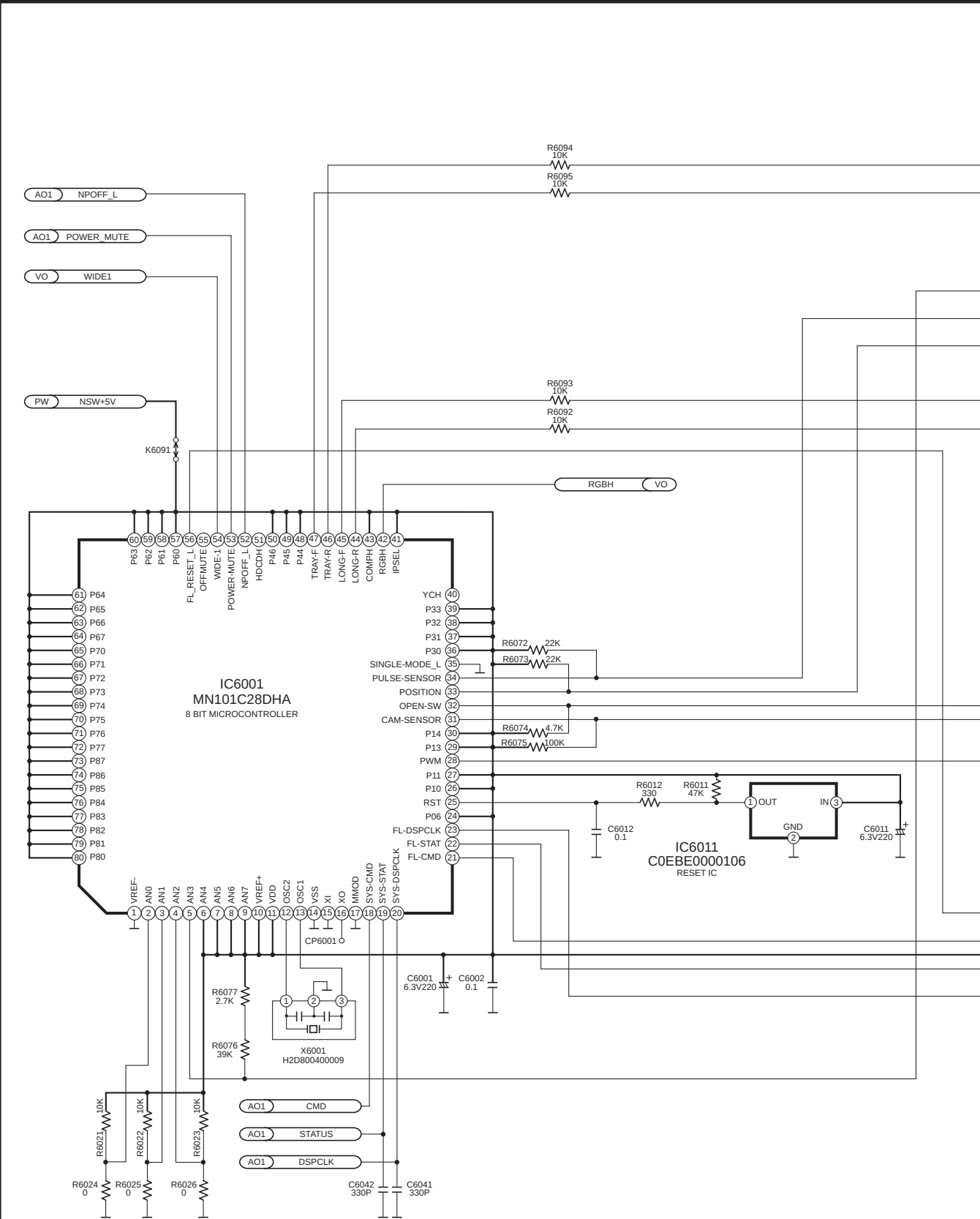
 : DVD AUDIO SIGNAL LINE



B

MAIN (OPERATION CONTROL) CIRCUIT

— : +B SIGNAL LINE

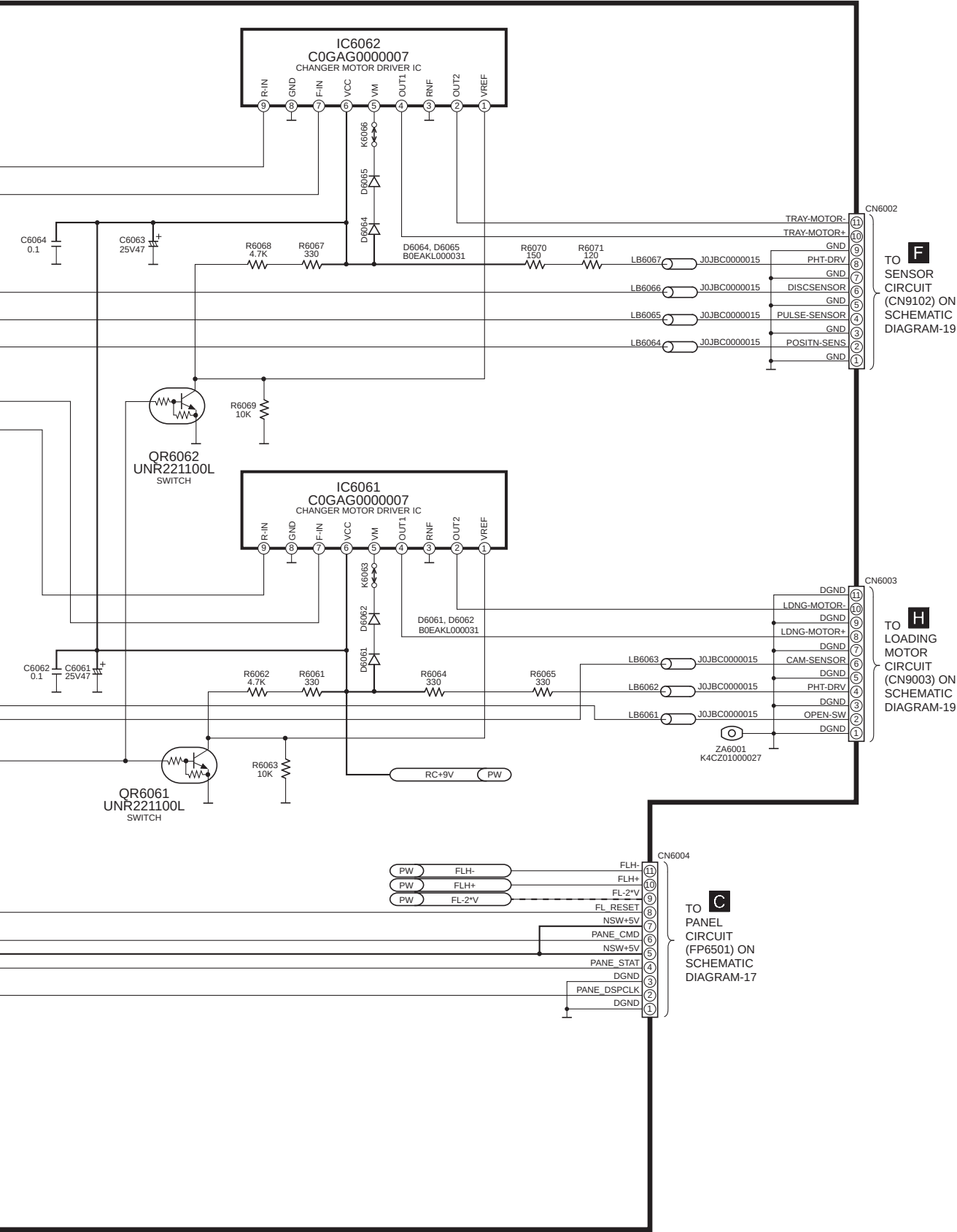


SCHEMATIC DIAGRAM - 10

B

MAIN (OPERATION CONTROL) CIRCUIT

— : +B SIGNAL LINE
- - - : -B SIGNAL LINE



B

MAIN (AUDIO-OUT1) CIRCUIT

— : +B SIGNAL LINE

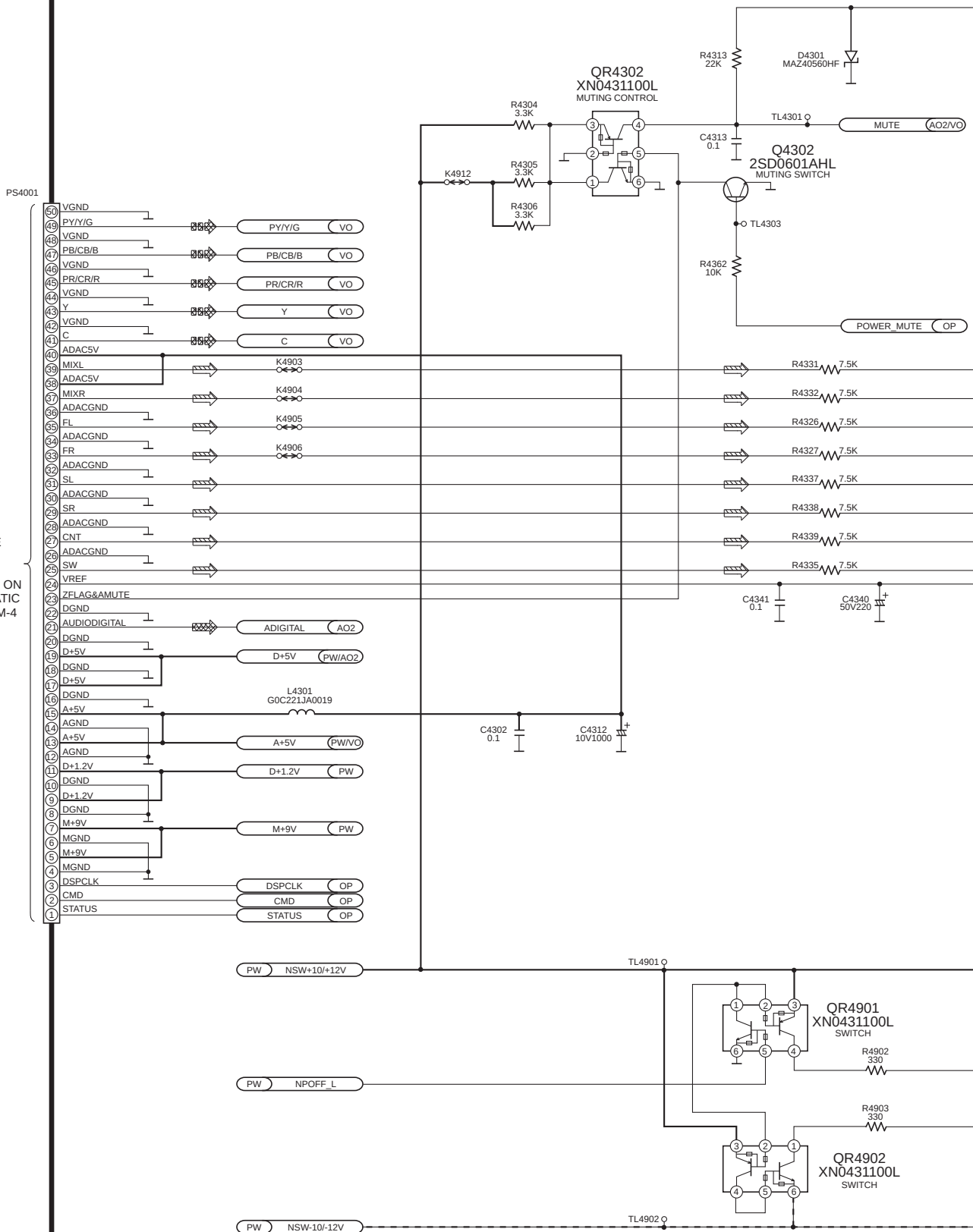
⊞ : DVD AUDIO SIGNAL LINE

- - - : -B SIGNAL LINE

⊞ : DVD VIDEO SIGNAL LINE

⇒ : MAIN SIGNAL LINE

TO
DVD
MODULE
(IN/OUT)
CIRCUIT
(FP8101) ON
SCHEMATIC
DIAGRAM-4

A

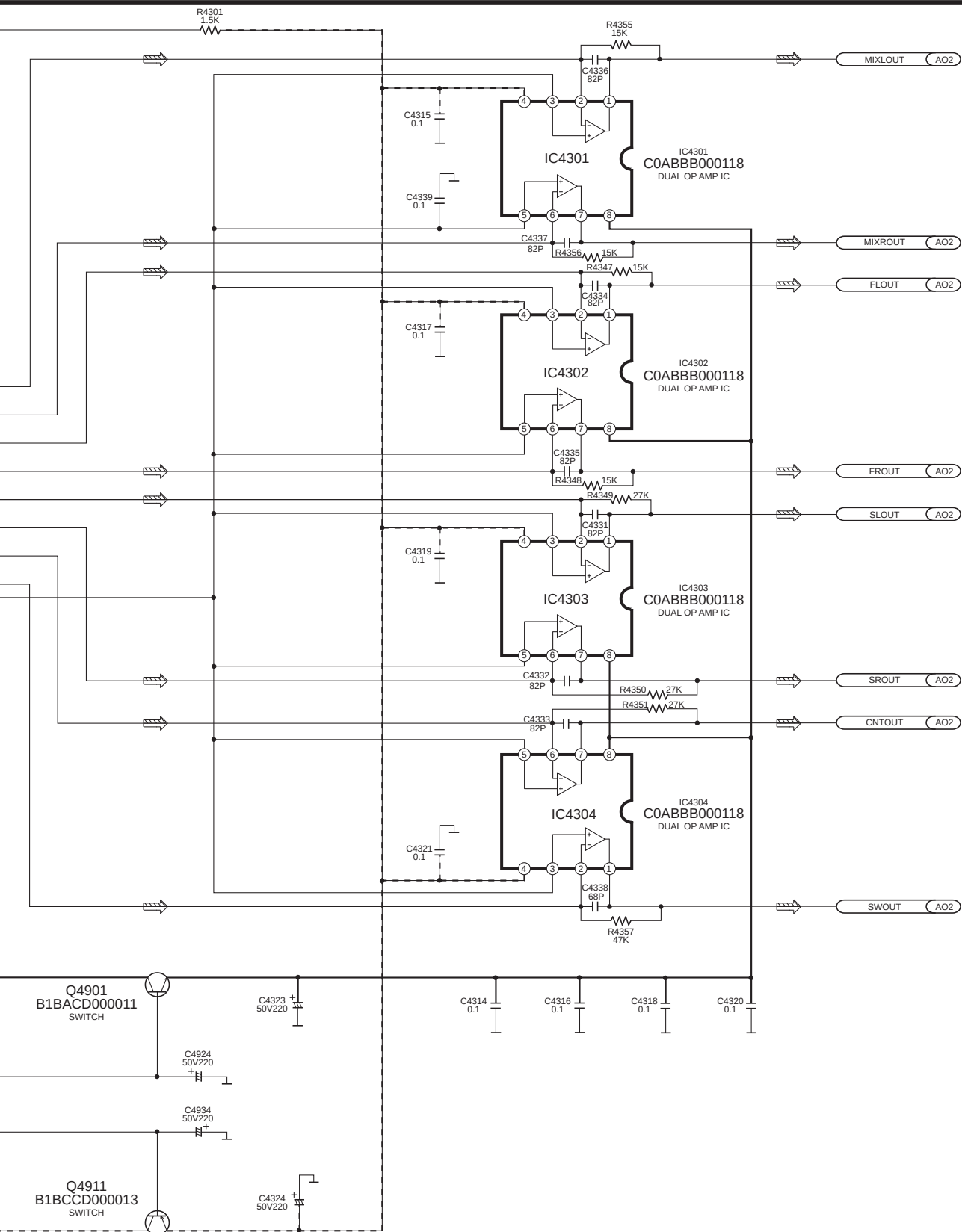
B

MAIN (AUDIO-OUT1) CIRCUIT

— : +B SIGNAL LINE

- - - : -B SIGNAL LINE

⇒ : MAIN SIGNAL LINE

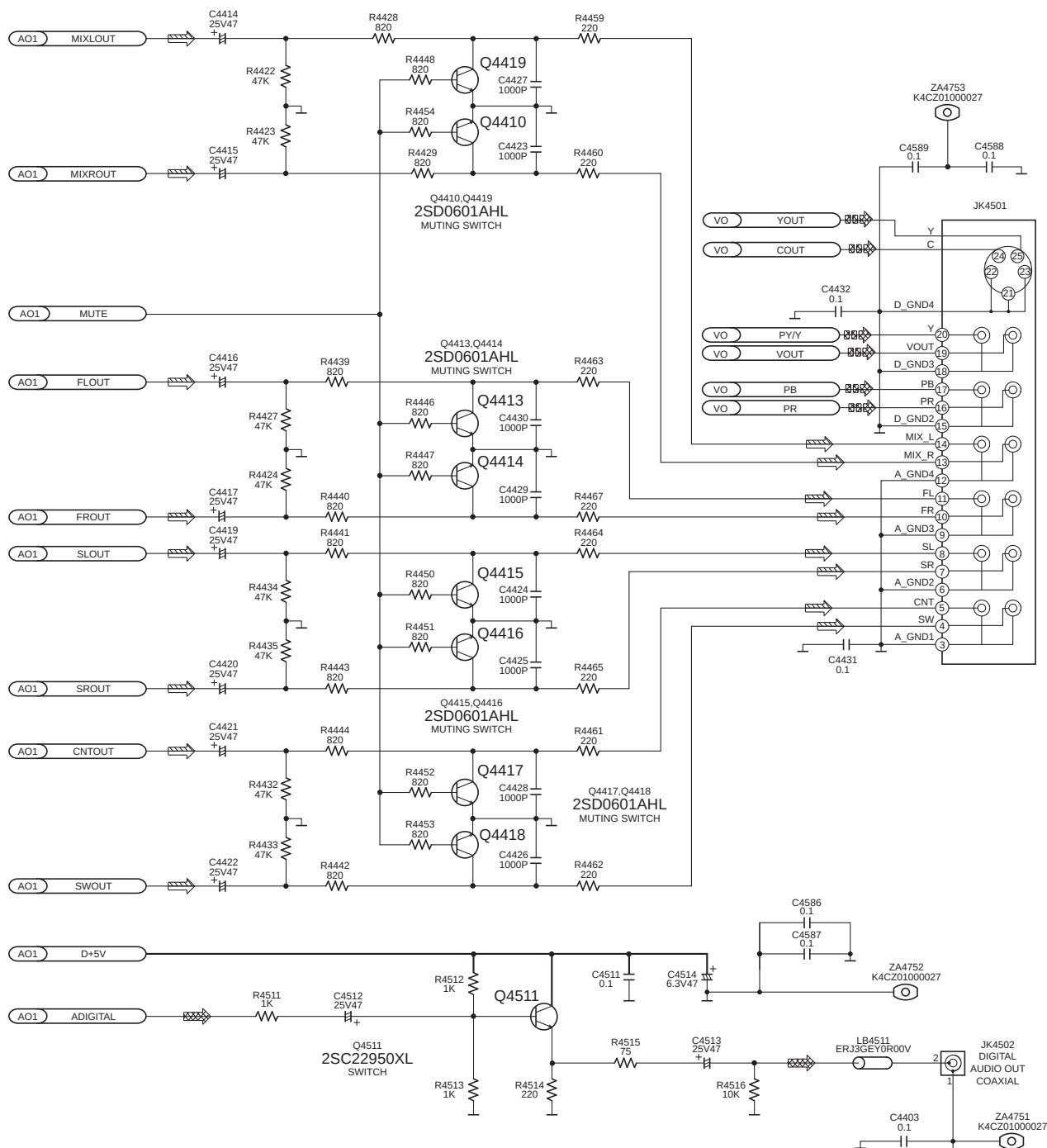


B MAIN (AUDIO-OUT2) CIRCUIT

 : MAIN SIGNAL LINE

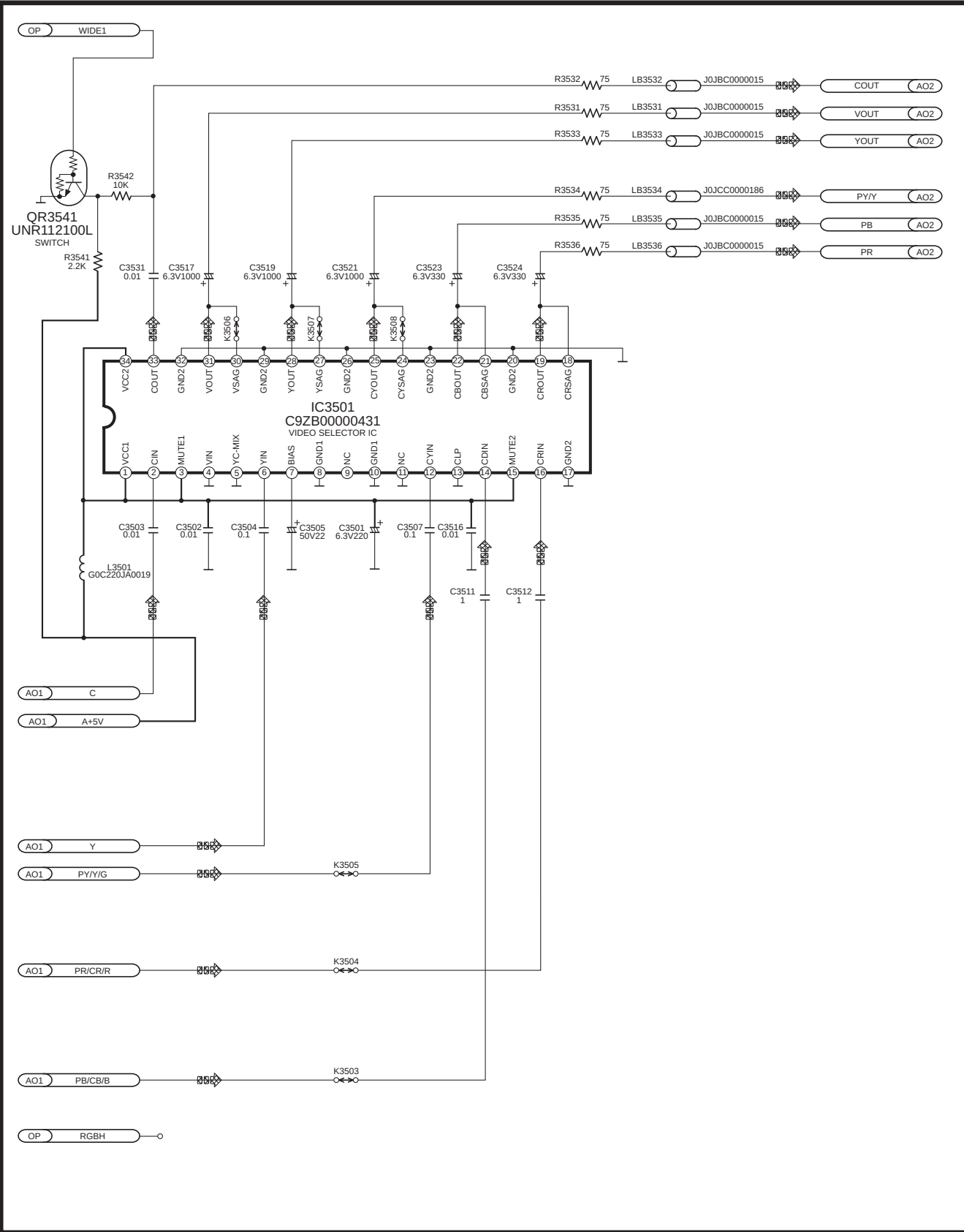
 : DVD AUDIO SIGNAL LINE

 : +B SIGNAL LINE

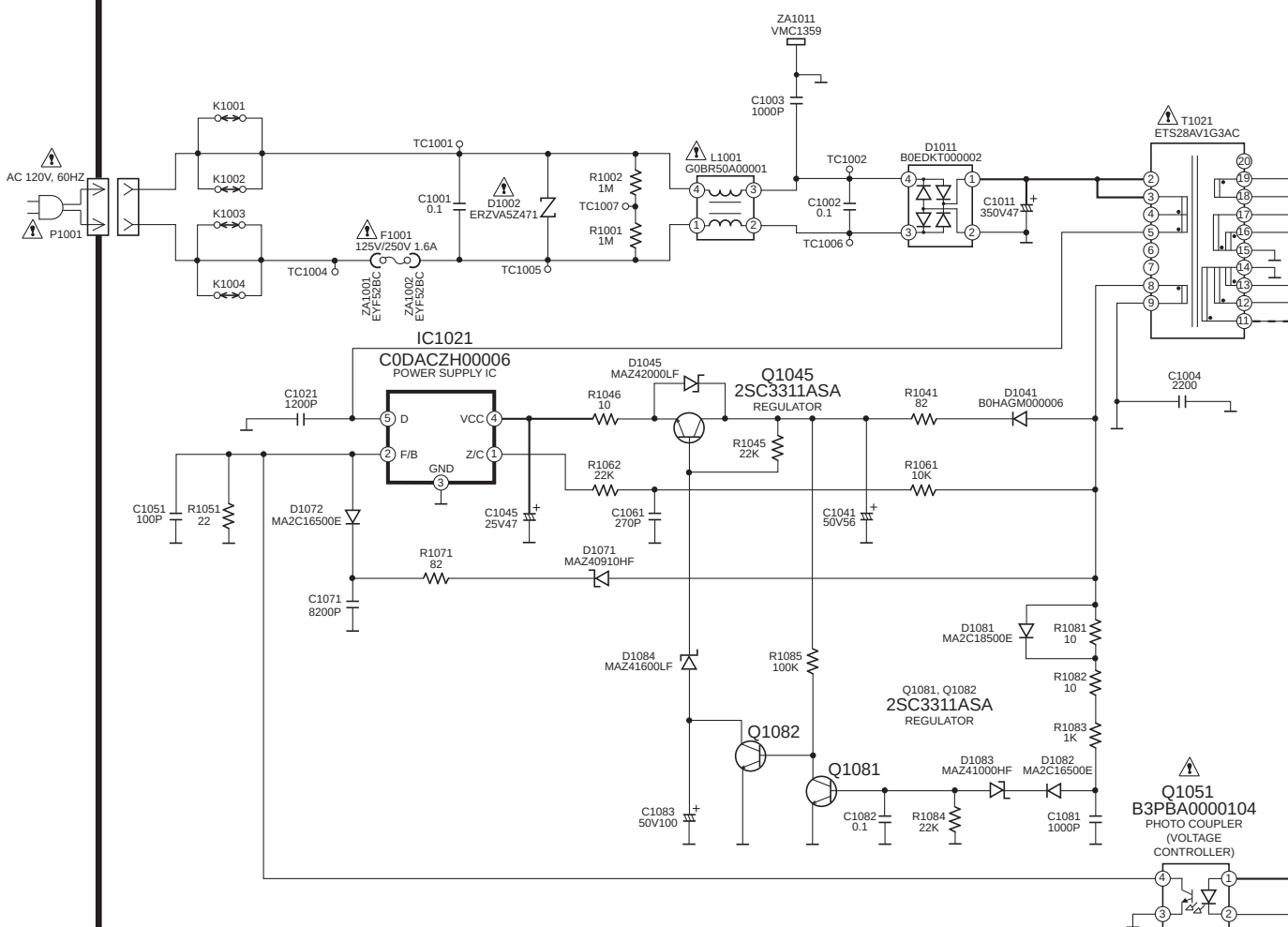
 : DVD VIDEO SIGNAL LINE


B MAIN (VIDEO OUT) CIRCUIT

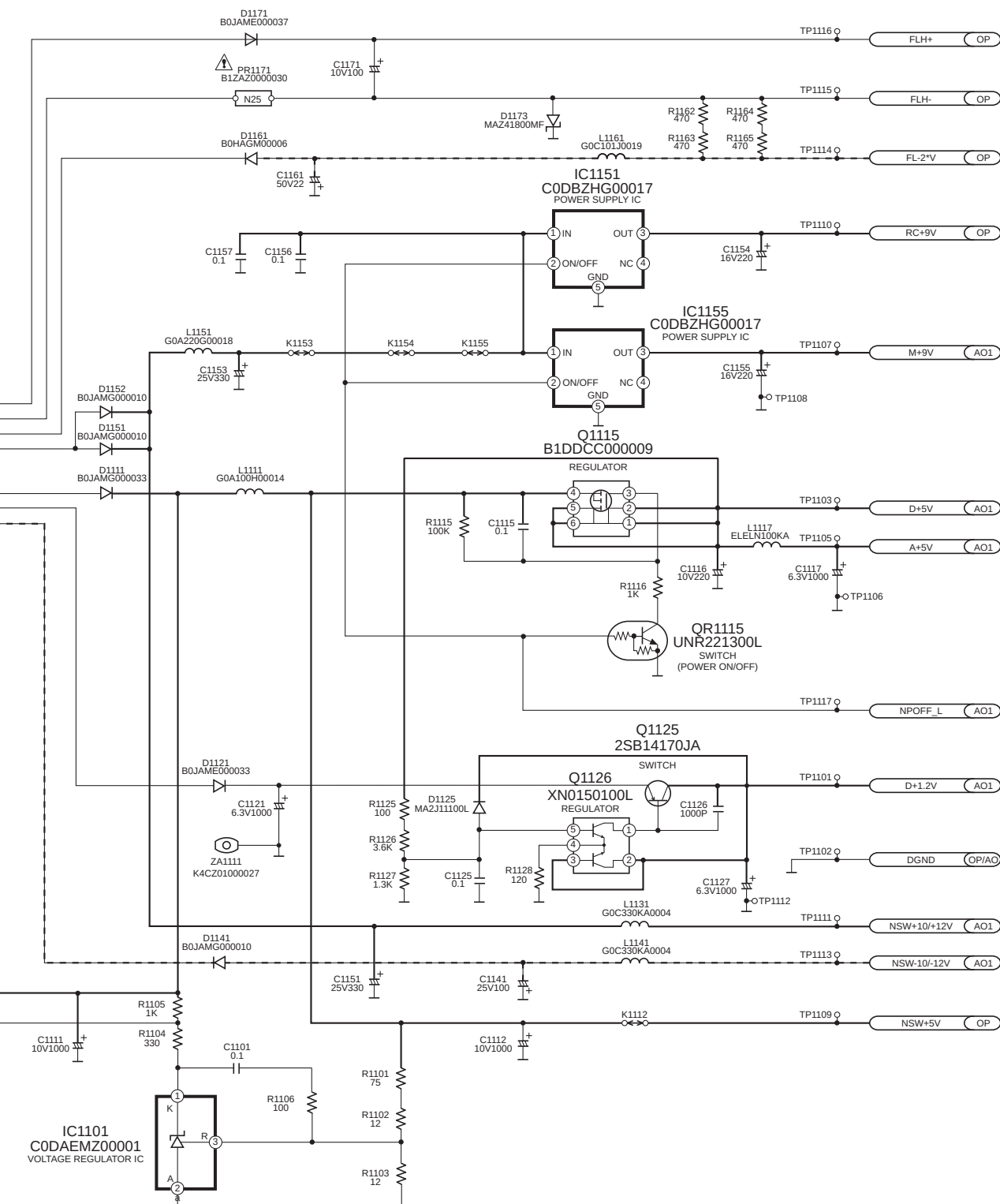
— : +B SIGNAL LINE  : DVD VIDEO SIGNAL LINE



— : +B SIGNAL LINE
 - - - : -B SIGNAL LINE



- - - - : -B SIGNAL LINE



C

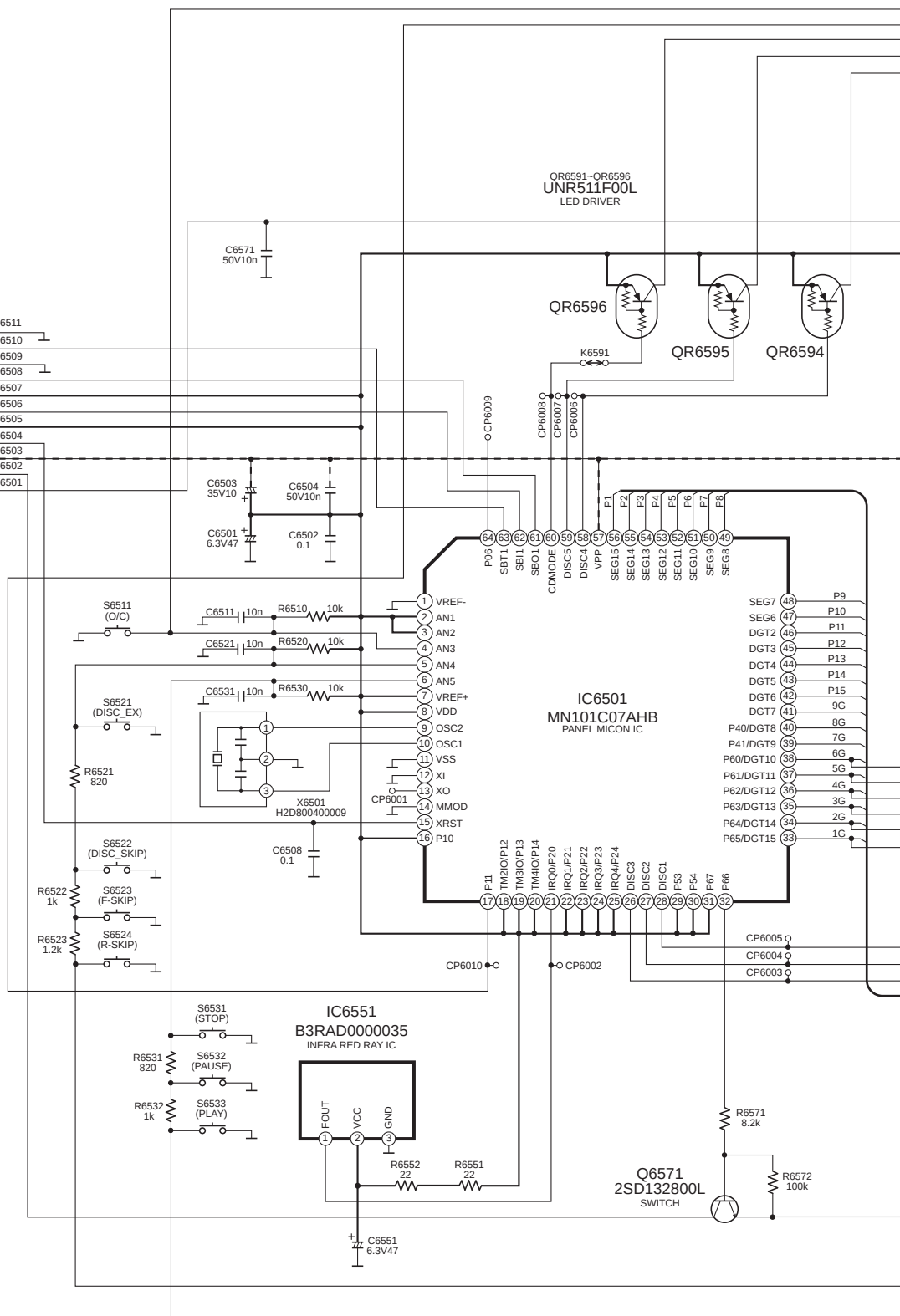
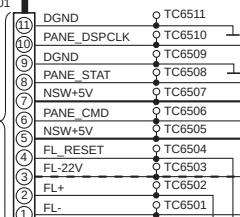
PANEL CIRCUIT

— : +B SIGNAL LINE

- - - : -B SIGNAL LINE

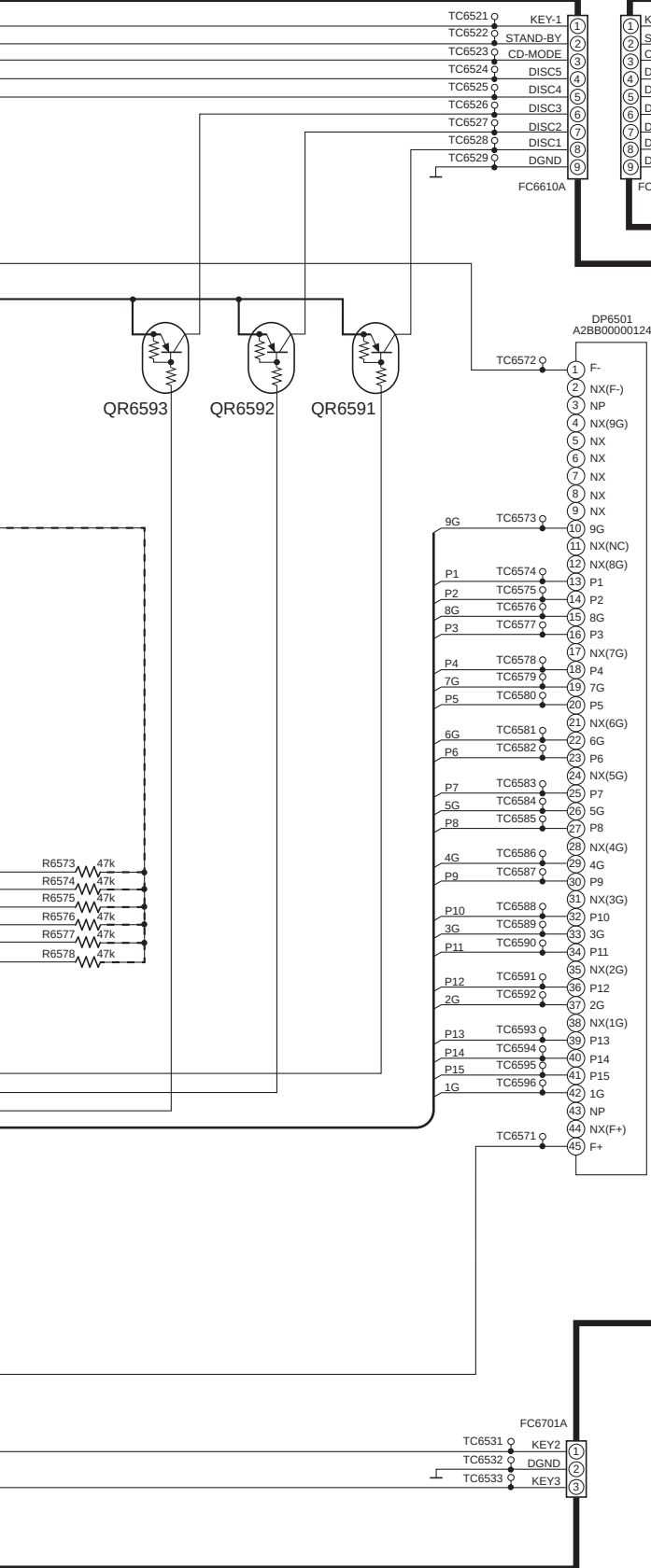
TO
MAIN
(OPERATION
CONTROL)
CIRCUIT
(CN6004) ON
SCHEMATIC
DIAGRAM-10

FP6501

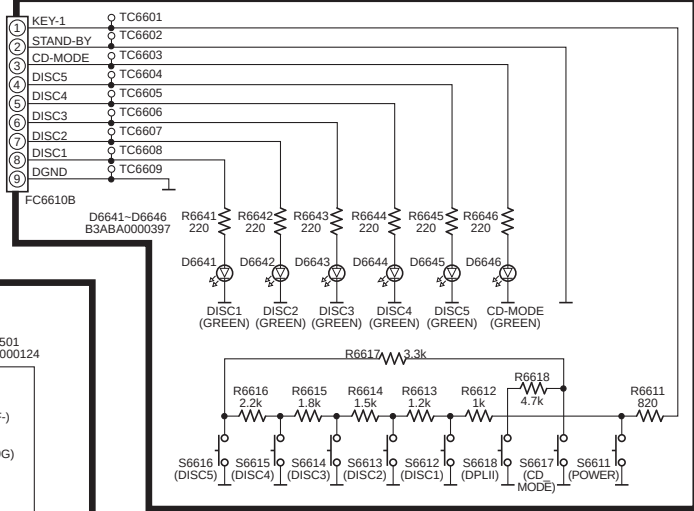


SCHEMATIC DIAGRAM - 18

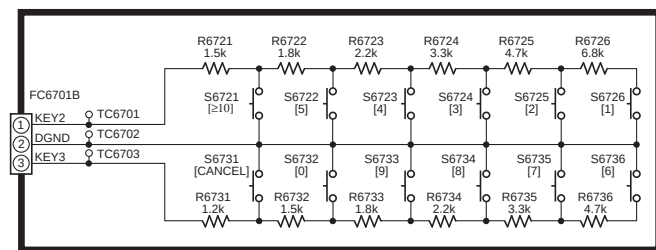
C PANEL CIRCUIT



D POWER CIRCUIT

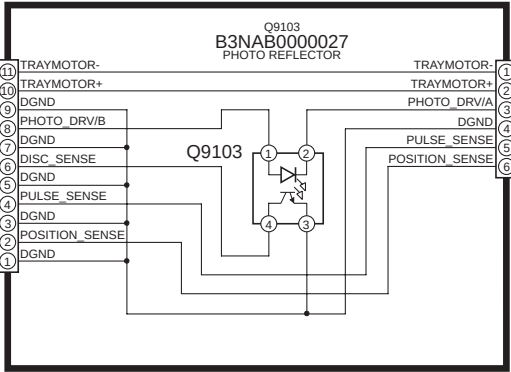


E 10 KEY CIRCUIT

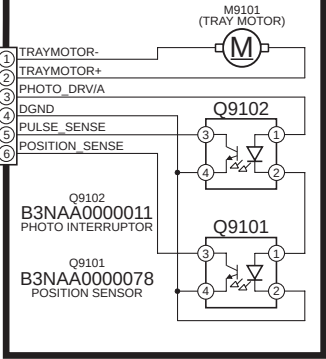


F SENSOR CIRCUIT

B
TO MAIN
(OPERATION
CONTROL)
CIRCUIT
(CN6002) ON
SCHEMATIC
DIAGRAM-10

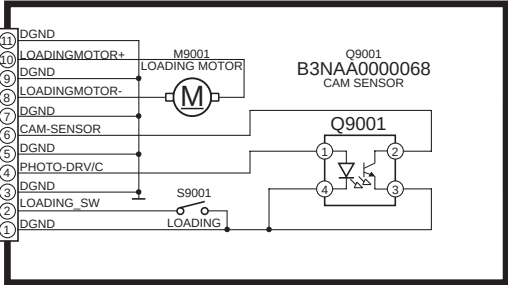


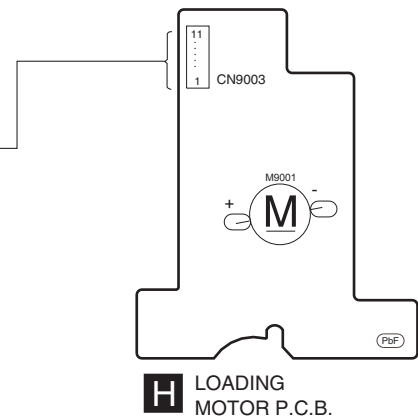
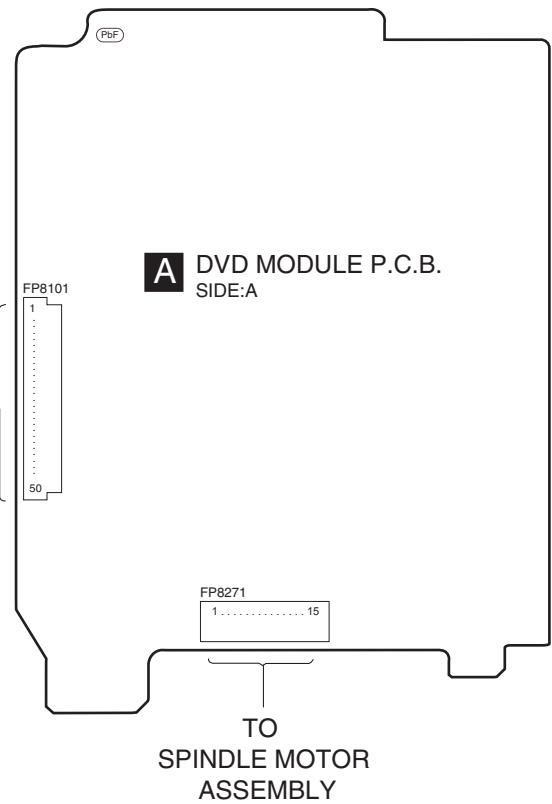
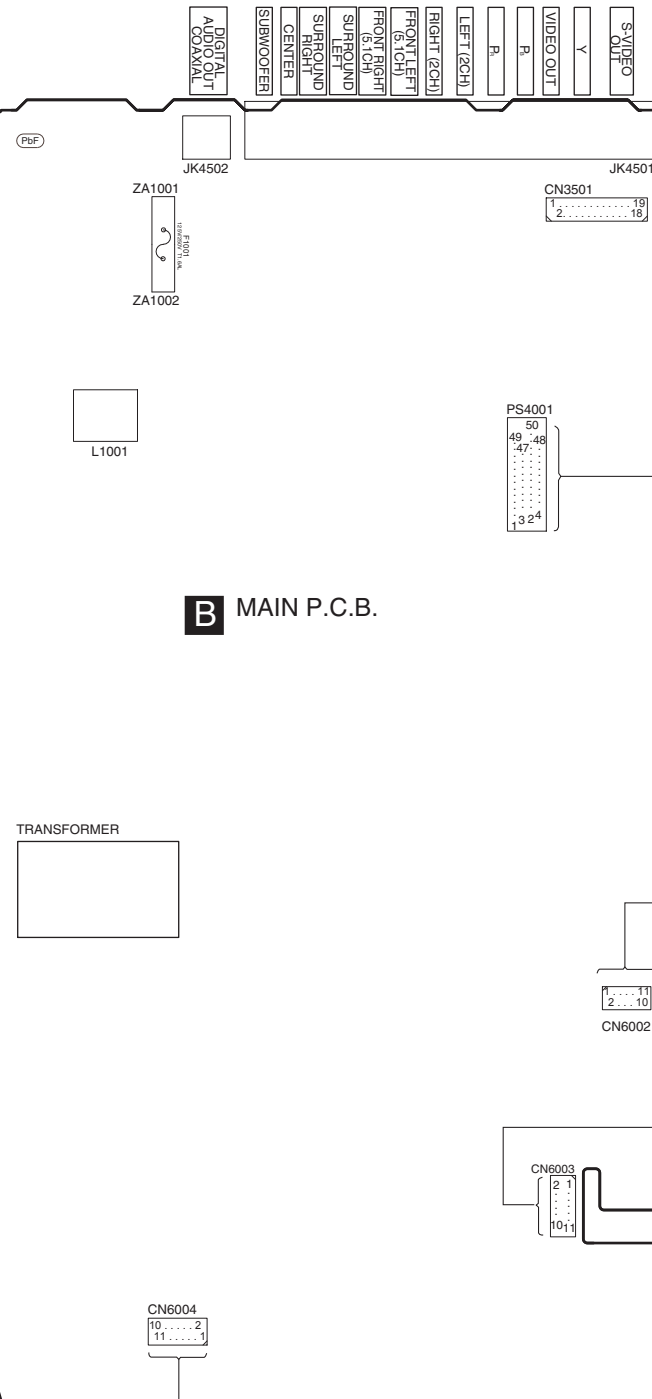
G TRAY MOTOR CIRCUIT



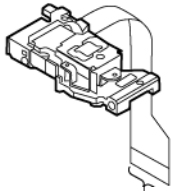
H LOADING MOTOR CIRCUIT

B
TO MAIN
(OPERATION
CONTROL)
CIRCUIT
(CN6003) ON
SCHEMATIC
DIAGRAM-10

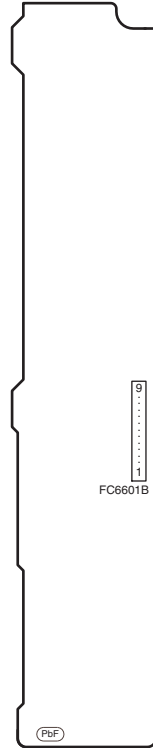




OPTICAL PICKUP

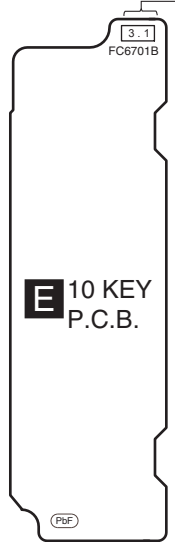


D POWER
P.C.B.

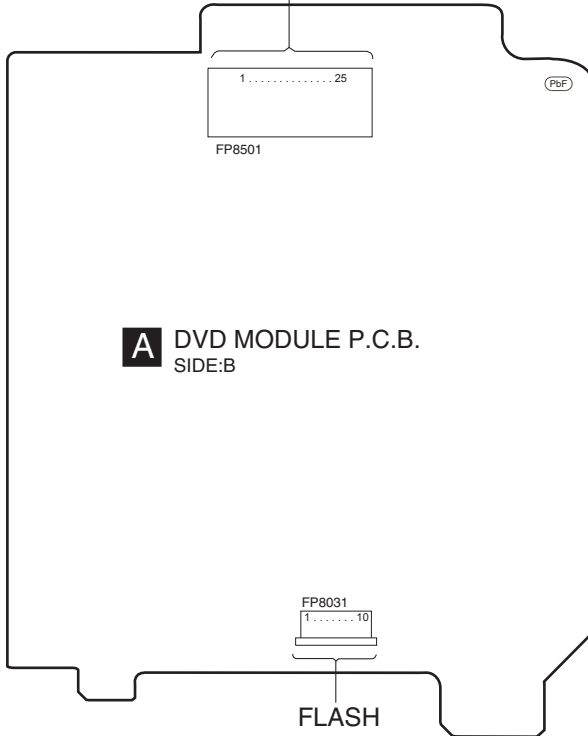


3.1
FC6701B

E 10 KEY
P.C.B.

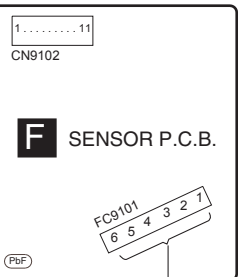
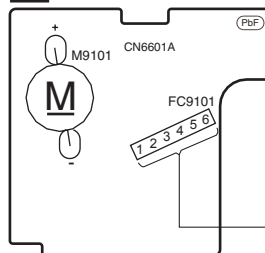


A DVD MODULE P.C.B.
SIDE:B

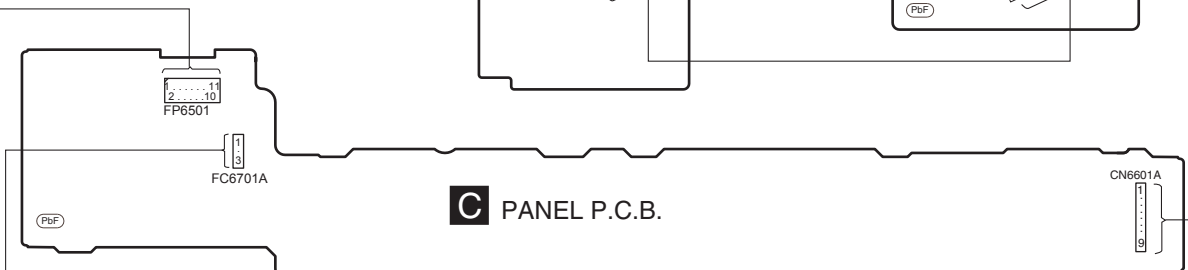


FLASH
ROM
WRITING
CIRCUIT

G TRAY MOTOR P.C.B.



C PANEL P.C.B.



S6523

: F- skip switch

S6524

: R- skip switch

S6531

: Stop switch

S6532

: Pause switch

S6533

: Play switch

S6611

: Power switch

S6612 ~ S6616

: Disc 1 - 5 switch

S6617

: CD Mode switch

S6618

: DPL II switch

S6721

: [10] switch

S6722

: [5] switch

S6723

: [4] switch

S6724

: [3] switch

S6725

: [2] switch

S6726

: [1] switch

S6731

: [CANCEL] switch

S6732

: [0] switch

S6733

: [9] switch

S6734

: [8] switch

S6735

: [7] switch

S6736

: [6] switch

S9001

: Loading switch

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

No : << >> Rec < > : FM
mark Playback
(()) : CD () : AM [] : AUX

- Importance safety notice :

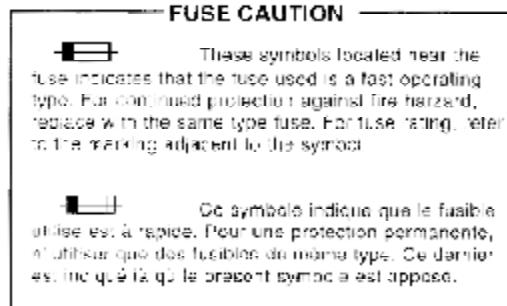
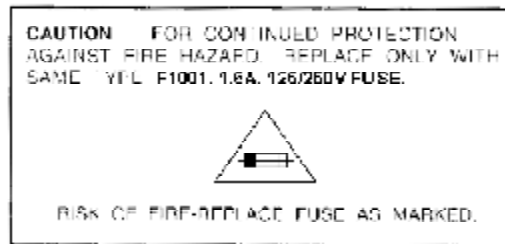
Components identified by  mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.
- Put a conductive mat on the work table.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.



**CAUTION: TO PREVENT ELECTRIC SHOCK
MATCH WIDE BLADE OF PLUG TO WIDE SLOT,
FULLY INSERT.**

**ATTENTION: POUR EVITER LES CHOCS
ELECTRIQUES, INTRODUIRE LA LAME LA PLUS
LARGE DE LA FICHE DANS LA BORNE /
CORRESPONDANTE DE LA PRISE ET POUSSER
JUSQU'AU FOND.**

20.1. (A) Optical Pickup Unit Circuit

20.2. (A) DVD Module (In/Out) Circuit

20.3. (A) DVD Module (DV2) Circuit

20.4. (B) Main (Operation Control) Circuit

20.5. (B) Main (Audio- out 1) Circuit

20.6. (B) Main (Audio- out 2) Circuit

20.7. (B) Main (Video Out) Circuit

20.8. (B) Main (Power) Circuit

**20.9. (C) Panel Circuit, (D) Display Panel Circuit & (E) Selection
Panel Circuit**

20.10. (F) Sensor Circuit, (G) Tray Motor Circuit & (H) Loading Motor

Circuit

21. Printed Circuit Board

21.1. (A) DVD Module P.C.B. (Side: A & B)

21.2. (B) Main P.C.B.

21.3. (C) Panel P.C.B., (D) 10 Key P.C.B. & (E) Power P.C.B.

21.4. (F) Sensor P.C.B., (G) Tray Motor P.C.B. & (H) Loading Motor P.C.B.

22. Wiring Connection Diagram

23. Parts Location and Replacement Parts List

Notes:

- Important safety notice:

Components identified by  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardent (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.

When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.

- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)

Parts without these indications can be used for all areas.

- Warning: This product uses a laser diode. Refer to caution statements on "Precaution of Laser Diode".

- Capacitor values are in microfarads (μ F) unless specified otherwise, P= Pico-farads (pF), F= Farads.

- Resistance values are in ohms, unless specified otherwise, 1K= 1,000 (OHM).

- The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period,

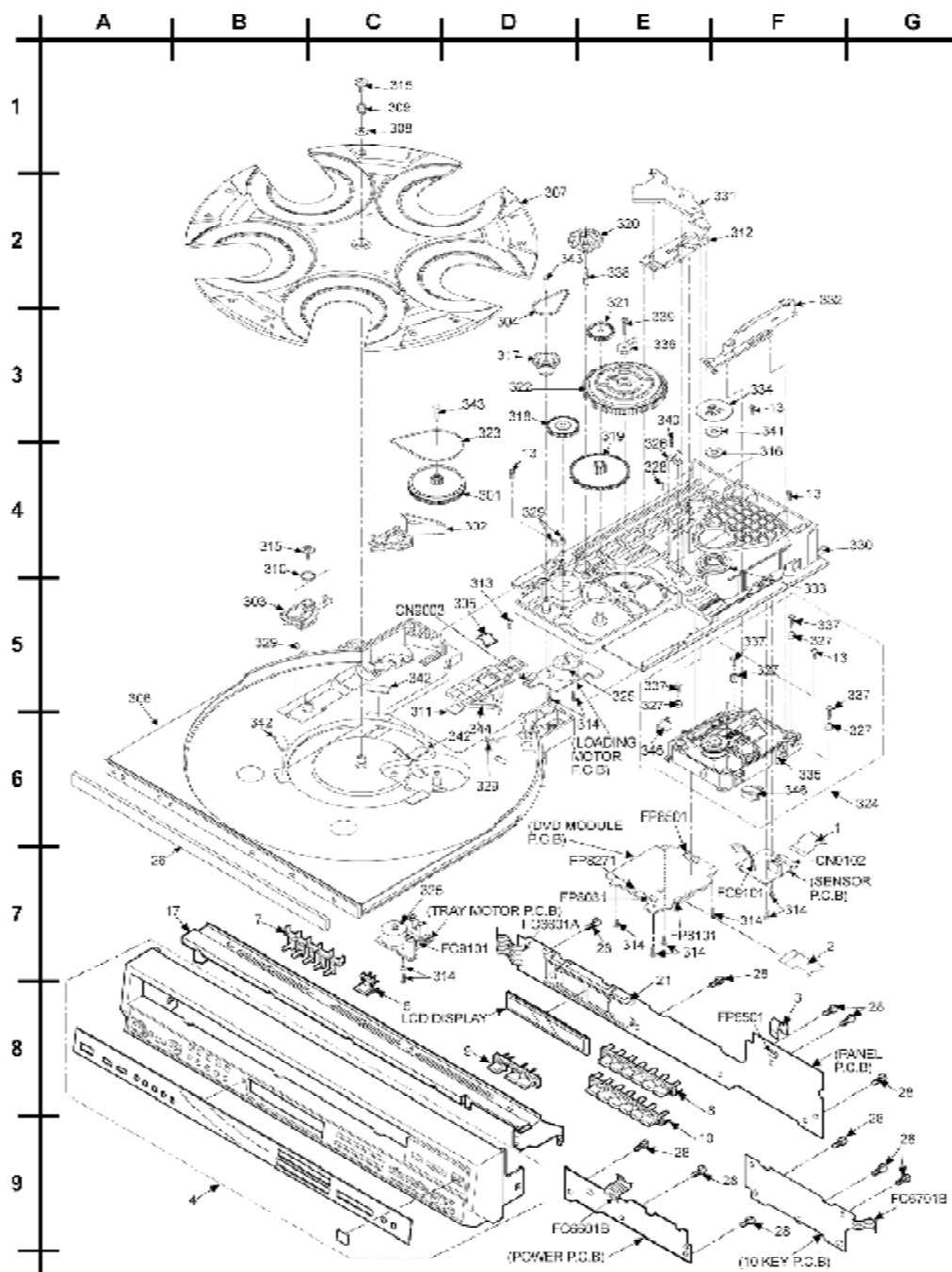
the assembly will no longer be available.

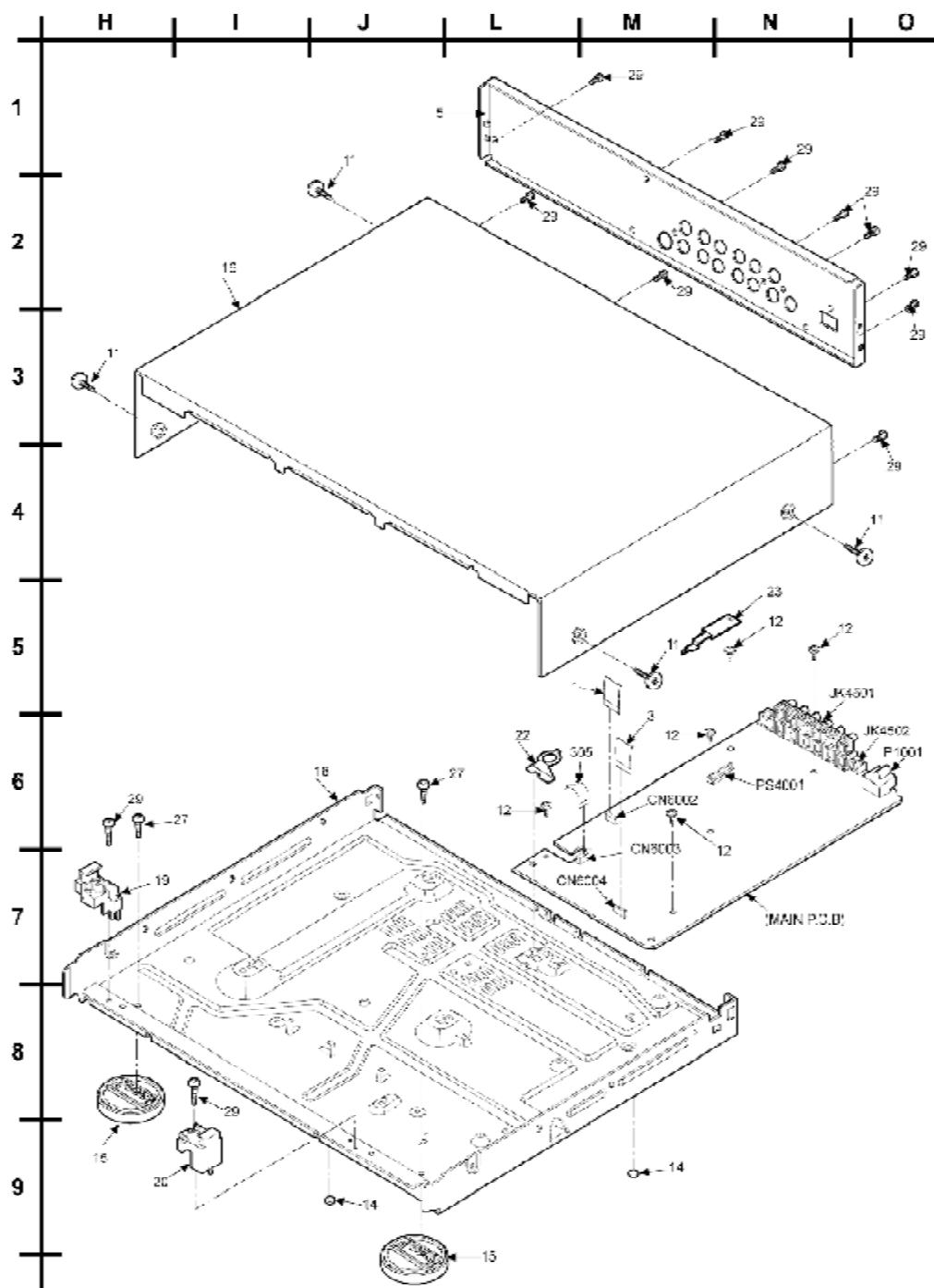
- [M] Indicates in the Remarks column indicates parts supplied by PAVCSG.
- The “(SF)” mark denotes the standard part.
- Reference for O/I book languages are as follows:

Ar :	Arabic	Du :	Dutch	It :	Italian	Sp :	Spanish
Cf :	Canadian French	En :	English	Ko :	Korean	Sw :	Swedish
Cz :	Czech	Fr :	French	Po :	Polish	Co :	Traditional Chinese
Da :	Danish	Ge :	German	Ru :	Russian	Cn :	Simplified Chinese
Pe :	Persian						

23.1. Loading Mechanism, Traverse Unit and Cabinet

23.1.1. Loading Mechanism, Traverse Unit and Cabinet Parts Location





23.1.2. Loading Mechanism, Traverse Unit and Cabinet Part List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
<u>1</u>	REZ1483	11P FFC	[M]
<u>2</u>	REZ1608	50P FFC (MECHA-MAIN)	[M]
<u>3</u>	REZ1609	11P FFC (PANEL-MAIN)	[M]
<u>4</u>	RFKGVDF87PCK	FRONT PANEL ASS'Y	[M]PC-K
4	RFKGVDF87PCS	FRONT PANEL ASS'Y	[M]PC-S
4	RFKGVDF87P-K	FRONT PANEL ASS'Y	[M]P-K
4	RFKGAF87P-S	FRONT PANEL ASS'Y	[M]P-S
<u>5</u>	RGR0343A-A2	REAR PANEL	[M]P-K/P-S
5	RGR0343A-B2	REAR PANEL	[M]PC-K/PC-S
<u>6</u>	RGU2261-Q	CD BUTTON	[M]
<u>7</u>	RGU2262-S	DISC BUTTON	[M]
<u>8</u>	RGU2263-K	10-KEY BUTTON A	[M]PC-K/P-K
8	RGU2263-S	10-KEY BUTTON A	[M]PC-S/P-S
<u>9</u>	RGU2264-K	OPEN BUTTON	[M]PC-K/P-K
9	RGU2264-S	OPEN BUTTON	[M]PC-S/P-S
<u>10</u>	RGU2283-K	10 KEY BUTTON B	[M]PC-K/P-K
10	RGU2283-S	10-KEY BUTTON B	[M]PC-S/P-S
<u>11</u>	RHD30007-1SJ	SCREW	[M]PC-S/P-S
11	RHD30007-K1	SCREW	[M]PC-K/P-K
<u>12</u>	RHD30090	SCREW	[M]
<u>13</u>	RHD30107	SCREW	[M]
<u>14</u>	RKA0145-K	CUSHION	[M]
<u>15</u>	RKA0157-N	FOOT ASS'Y	[M]
<u>16</u>	RKM0498-K	TOP CABINET	[M]PC-K/P-K
16	RKM0498-S	TOP CABINET	[M]PC-S/P-S
<u>17</u>	RMA1769	PANEL ANGLE	[M]
<u>18</u>	RMK0593	BOTTOM CHASSIS	[M]
<u>19</u>	RMN0730	TRAY GUIDE L	[M]
<u>20</u>	RMN0731	TRAY GUIDE R	[M]
<u>21</u>	RMN0766	FL HOLDER	[M]
<u>22</u>	RMV0268	COVER SHEET	[M]
<u>23</u>	RMV0279	SPACER	[M]
<u>26</u>	RYF0718-K1	TRAY ORNAMENT ASS'Y	[M]PC-K/P-K
26	RYF0718-S1	TRAY ORNAMENT ASS'Y	[M]PC-S/P-S
<u>27</u>	XTB3+6J	SCREW	[M]
<u>28</u>	XTBS26+10J	SCREW	[M]
<u>29</u>	XTBS3+8JFZ1	SCREW	[M]
		TRAVERSE DECK	
<u>301</u>	RDG0567	PULSE GEAR	[M]
<u>302</u>	RDG0568	OPEN LOCK GEAR	[M]
<u>303</u>	RDG0569	CLOSE LOCK GEAR	[M]
<u>304</u>	RDV0073	TRAY BELT	[M]
<u>305</u>	REZ1484	11P FFC	[M]
<u>306</u>	RGQ0358-K	TRAY BASE	[M]
<u>307</u>	RGQ0359-K	ROTARY TRAY	[M]
<u>308</u>	RHW81001-1	WASHER	[M]
<u>309</u>	RMB0365	TRAY SPRING	[M]
<u>310</u>	RME0384	CLOSE LOCK GEAR SPRING	[M]
<u>311</u>	RMF0324	BLOCK SHEET	[M]
<u>312</u>	RMM0255	SLIDE PLATE L	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
313	XTB3+10J	SCREW	[M]
314	XTN26+8G	SCREW	[M]
315	XTWS3+10S	SCREW	[M]
316	JSM0048	MAGNET	[M]
317	RDG0562	PULLEY GEAR	[M]
318	RDG0563	RELAY GEAR A	[M]
319	RDG0564	RELAY GEAR B	[M]
320	RDG0565	DRIVE GEAR A	[M]
321	RDG0566	DRIVE GEAR B	[M]
322	RDG0570	CAM GEAR	[M]
323	RDV0072	LOADING BELT	[M]
324	RAE2008W-S	TRAVERSE UNIT	[M]
325	REM0112	LOADING MOTOR ASS'Y	[M]
326	RMC0387	SUPPORT SPRING	[M]
327	RMG0598A-K	FLOATING RUBBER	[M]
328	RMG0615-K	CUSHION SHEET	[M]
329	RMG0620-K	CUSHION RUBBER	[M]
330	RMK0555	MECHA BASE	[M]
331	RML0646	CHANGE LEVER	[M]
332	RMM0254	SLIDE PLATE R	[M]
333	RMR1446-X	CLAMPER	[M]
334	RMR1447-X	MAGNET HOLDER	[M]
335	RMR1596-K	MIDDLE CHASSIS	[M]
336	RMR1507-X	SUPPORT PIECE	[M]
337	RMS0789	FIXED PIN	[M]
338	RMS0802-J	DRIVE GEAR SHAFT	[M]
339	XTN26+14JFZ	SCREW	[M]
340	XTV2+6G	PCB SCREW	[M]
341	XWG6FFY	WASHER	[M]
342	RMF0182	TRAY FELT	[M]
343	RMS0123-1	FIXED PIN B	[M]
344	RMM0256	BLOCK BASE	[M]
345	RMX0274	TRAY SUPPORT R	[M]
346	RMX0275	TRAY SUPPORT L	[M]

23.2. Component Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT BOARD	
	REP3654A	DVD MODULE P.C.B. (SIDE: A)	[M](RTL)
	REP3654A	DVD MODULE P.C.B. (SIDE: B)	[M](RTL)
	REP3666A	MAIN P.C.B.	[M](RTL)
	REP3667A	PANEL P.C.B.	[M](RTL)
	REP3667A	10 KEY P.C.B.	[M](RTL)
	REP3667A	POWER P.C.B.	[M](RTL)
	REP3466A	SENSOR P.C.B.	[M](RTL)
	REP3466A	TRAY MOTOR P.C.B.	[M](RTL)
	REP3465A	LOADING MOTOR P.C.B.	[M](RTL)
		INTEGRATED CIRCUITS	
IC1021	C0DACZH00006	IC POWER SUPPLY	[M]
IC1101	C0DAEMZ00001	IC VOLTAGE REGULATOR	[M]
IC1151	C0DBZHG00017	IC POWER SUPPLY	[M]
IC1155	C0DBZHG00017	IC POWER SUPPLY	[M]
IC3501	C9ZB00000431	IC VIDEO SELECTOR	[M]
IC4301	C0ABBB000118	IC DUAL OP-AMP	[M]
IC4302	C0ABBB000118	IC DUAL OP-AMP	[M]
IC4303	C0ABBB000118	IC DUAL OP-AMP	[M]
IC4304	C0ABBB000118	IC DUAL OP-AMP	[M]
IC6001	MN101C28DHA	IC 8 BIT 1 CHIP MICROCONTROLLER	[M]
IC6011	C0EBE0000106	IC RESET	[M]
IC6061	C0GAG0000007	IC CHANGER MOTOR DRIVER	[M]
IC6062	C0GAG0000007	IC CHANGER MOTOR DRIVER	[M]
IC6501	MN101C07AHB	IC MICON	[M]
IC6551	B3RAD0000035	IC INFRARED	[M]
IC8001	MN2DS0003APH	IC DV2.1 LSI	[M]
IC8051	C3ABPG000063	IC 64MB SDRAM	[M]
IC8111	C0CBCBD00018	IC POWER SUPPLY	[M]
IC8251	C0GBG0000044	IC MOTOR DRIVE	[M]
IC8271	C0GBF0000004	IC MOTOR DRIVE	[M]
IC8451	C0FBBK000036	IC AUDIO DAC	[M]
IC8601	C0EBE0000384	IC VOLTAGE DETECTING	[M]
IC8605	C0EBA0000031	IC RESET	[M]
IC8651	C3FBMD000134	IC SDRAM	[M]
IC8691	C0JBCA000066	IC AND GATE	[M]
IC8695	C0JBCA000066	IC AND GATE	[M]
		TRANSISTORS	
Q1045	2SC3311ASA	TRANSISTOR	[M]
Q1051	B3PBA0000104	TRANSISTOR	[M]
Q1081	2SC3311ASA	TRANSISTOR	[M]
Q1082	2SC3311ASA	TRANSISTOR	[M]
Q1115	B1DDCC000009	TRANSISTOR	[M]
Q1125	2SB14170JA	TRANSISTOR	[M]
Q1126	XN0150100L	TRANSISTOR	[M]
Q4302	2SD0601AHL	TRANSISTOR	[M]
Q4410	2SD0601AHL	TRANSISTOR	[M]
Q4413	2SD0601AHL	TRANSISTOR	[M]
Q4414	2SD0601AHL	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q4415	2SD0601AHL	TRANSISTOR	[M]
Q4416	2SD0601AHL	TRANSISTOR	[M]
Q4417	2SD0601AHL	TRANSISTOR	[M]
Q4418	2SD0601AHL	TRANSISTOR	[M]
Q4419	2SD0601AHL	TRANSISTOR	[M]
Q4511	2SC22950XL	TRANSISTOR	[M]
Q4901	B1BACD000011	TRANSISTOR	[M]
Q4911	B1BCCD000013	TRANSISTOR	[M]
Q6571	2SD132800L	TRANSISTOR	[M]
Q8550	2SB1219AHL	TRANSISTOR	[M]
Q8551	2SD1819A0L	TRANSISTOR	[M]
Q8552	2SB09700RL	TRANSISTOR	[M]
Q8560	2SD1819A0L	TRANSISTOR	[M]
Q8561	2SD1819A0L	TRANSISTOR	[M]
Q8562	2SB09700RL	TRANSISTOR	[M]
Q8605	2SD1819A0L	TRANSISTOR	[M]
Q8606	2SD1819A0L	TRANSISTOR	[M]
Q9001	B3NAA0000068	CAM SENSOR	[M]
Q9101	B3NAA0000078	POSITION SENSOR	[M]
Q9102	B3NAA0000011	PHOTO INTERRUPTOR	[M]
Q9103	B3NAB0000027	PHOTO REFLECTOR	[M]
QR1115	UNR221300L	TRANSISTOR	[M]
QR3541	UNR221200L	TRANSISTOR	[M]
QR4302	XN0431100L	TRANSISTOR	[M]
QR4901	XN0431100L	TRANSISTOR	[M]
QR4902	XN0431100L	TRANSISTOR	[M]
QR6061	UNR221100L	TRANSISTOR	[M]
QR6062	UNR221100L	TRANSISTOR	[M]
QR6591	UNR511F00L	TRANSISTOR	[M]
QR6592	UNR511F00L	TRANSISTOR	[M]
QR6593	UNR511F00L	TRANSISTOR	[M]
QR6594	UNR511F00L	TRANSISTOR	[M]
QR6595	UNR511F00L	TRANSISTOR	[M]
QR6596	UNR511F00L	TRANSISTOR	[M]
QR8420	UNR521100L	TRANSISTOR	[M]
QR8571	UNR511V00L	TRANSISTOR	[M]
		DIODES	
D1002	ERZVA5Z471	DIODE	[M]
D1011	B0EDKT000002	DIODE	[M]
D1041	B0HAGM000006	DIODE	[M]
D1045	MAZ42000LF	DIODE	[M]
D1071	MAZ40910HF	DIODE	[M]
D1072	MA2C16500E	DIODE	[M]
D1081	MA2C18500E	DIODE	[M]
D1082	MA2C16500E	DIODE	[M]
D1083	MAZ41000HF	DIODE	[M]
D1084	MAZ41600LF	DIODE	[M]
D1111	B0JAME000033	DIODE	[M]
D1121	B0JAME000033	DIODE	[M]
D1125	MA2J11100L	DIODE	[M]
D1141	B0JAMG000010	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D1151	B0JAMG000010	DIODE	[M]
D1152	B0JAMG000010	DIODE	[M]
D1161	B0HAGM000006	DIODE	[M]
D1171	B0JAME000037	DIODE	[M]
D1173	MAZ41800MF	DIODE	[M]
D4301	MAZ40560HF	DIODE	[M]
D6061	B0EAKL000031	DIODE	[M]
D6062	B0EAKL000031	DIODE	[M]
D6064	B0EAKL000031	DIODE	[M]
D6065	B0EAKL000031	DIODE	[M]
D6641	B3ABA0000397	DIODE	[M]
D6642	B3ABA0000397	DIODE	[M]
D6643	B3ABA0000397	DIODE	[M]
D6644	B3ABA0000397	DIODE	[M]
D6645	B3ABA0000397	DIODE	[M]
D6646	B3ABA0000397	DIODE	[M]
D8550	MA2S11100L	DIODE	[M]
D8571	MA2J72800L	DIODE	[M]
		CHIP INDUCTOR	
LB3531	J0JBC0000015	CHIP INDUCTOR	[M]
LB3532	J0JBC0000015	CHIP INDUCTOR	[M]
LB3533	J0JBC0000015	CHIP INDUCTOR	[M]
LB3534	J0JCC0000186	CHIP BEADS	[M]
LB3535	J0JBC0000015	CHIP INDUCTOR	[M]
LB3536	J0JBC0000015	CHIP INDUCTOR	[M]
LB4511	ERJ3GEY0R00V	0 1/16W	[M]
LB6061	J0JBC0000015	CHIP INDUCTOR	[M]
LB6062	J0JBC0000015	CHIP INDUCTOR	[M]
LB6063	J0JBC0000015	CHIP INDUCTOR	[M]
LB6064	J0JBC0000015	CHIP INDUCTOR	[M]
LB6065	J0JBC0000015	CHIP INDUCTOR	[M]
LB6066	J0JBC0000015	CHIP INDUCTOR	[M]
LB6067	J0JBC0000015	CHIP INDUCTOR	[M]
LB8001	J0JHC0000045	CHIP INDUCTOR	[M]
LB8002	J0JHC0000045	CHIP INDUCTOR	[M]
LB8011	ERJ3GEYJ220V	22 1/16W	[M]
LB8271	ERJ3GEY0R00V	0 1/16W	[M]
LB8272	ERJ3GEY0R00V	0 1/16W	[M]
LB8273	ERJ3GEY0R00V	0 1/16W	[M]
LB8301	J0JCC0000119	CHIP INDUCTOR	[M]
LB8302	J0JCC0000119	CHIP INDUCTOR	[M]
LB8303	J0JCC0000119	CHIP INDUCTOR	[M]
LB8304	J0JCC0000119	CHIP INDUCTOR	[M]
LB8305	J0JCC0000119	CHIP INDUCTOR	[M]
LB8401	D0GB151JA008	CHIP RESISTOR	[M]
LB8420	J0JCC0000091	FILTER	[M]
LB8421	J0JCC0000119	CHIP INDUCTOR	[M]
LB8422	J0JCC0000119	CHIP INDUCTOR	[M]
LB8423	ERJ3GEY0R00V	0 1/16W	[M]
LB8424	J0JCC0000091	FILTER	[M]
LB8451	J0JCC0000119	CHIP INDUCTOR	[M]
LB8452	J0JCC0000119	CHIP INDUCTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
LB8453	J0JCC0000119	CHIP INDUCTOR	[M]
LB8454	J0JCC0000119	CHIP INDUCTOR	[M]
LB8455	J0JCC0000119	CHIP INDUCTOR	[M]
LB8456	J0JCC0000119	CHIP INDUCTOR	[M]
LB8491	J0JCC0000119	CHIP INDUCTOR	[M]
LB8501	ERJ3GEYJ222V	2.2K 1/16W	[M]
LB8502	J0JHC0000045	CHIP INDUCTOR	[M]
LB8503	ERJ3GEY0R00V	0 1/16W	[M]
LB8504	J0JCC0000091	FILTER	[M]
LB8505	J0JCC0000091	FILTER	[M]
LB8506	D0GB152JA002	1.5K 1/16W	[M]
LB8507	J0JCC0000091	FILTER	[M]
LB8511	ERJ3GEY0R00V	0 1/16W	[M]
LB8512	ERJ3GEY0R00V	0 1/16W	[M]
LB8513	ERJ3GEY0R00V	0 1/16W	[M]
LB8514	ERJ3GEY0R00V	0 1/16W	[M]
LB8690	J0JCC0000091	FILTER	[M]
LB8691	D0GB101JA002	100 1/16W	[M]
LB8692	D0GB101JA002	100 1/16W	[M]
LB8693	D0GB101JA002	100 1/16W	[M]
		SWITCHES	
S6511	EVQ21405R	SW OP/ CLOSE	[M]
S6521	EVQ21405R	SW DISC EXC	[M]
S6522	EVQ21405R	SW DISC SKIP	[M]
S6523	EVQ21405R	SW F SKIP	[M]
S6524	EVQ21405R	SW R SKIP	[M]
S6531	EVQ21405R	SW STOP	[M]
S6532	EVQ21405R	SW PAUSE	[M]
S6533	EVQ21405R	SW PLAY	[M]
S6611	EVQ21405R	SW POWER	[M]
S6612	EVQ21405R	SW DISC 1	[M]
S6613	EVQ21405R	SW DISC 2	[M]
S6614	EVQ21405R	SW DISC 3	[M]
S6615	EVQ21405R	SW DISC 4	[M]
S6616	EVQ21405R	SW DISC 5	[M]
S6617	EVQ21405R	SW CD MODE	[M]
S6618	EVQ21405R	SW DPII	[M]
S6721	EVQ21405R	SW ≥ 10	[M]
S6722	EVQ21405R	SW 5	[M]
S6723	EVQ21405R	SW 4	[M]
S6724	EVQ21405R	SW 3	[M]
S6725	EVQ21405R	SW 2	[M]
S6726	EVQ21405R	SW 1	[M]
S6731	EVQ21405R	SW CANCEL	[M]
S6732	EVQ21405R	SW 0	[M]
S6733	EVQ21405R	SW 9	[M]
S6734	EVQ21405R	SW 8	[M]
S6735	EVQ21405R	SW 7	[M]
S6736	EVQ21405R	SW 6	[M]
S9001	K0L1BA000086	OPEN SWITCH	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		CONNECTORS	
CN6002	K1MN11A00030	11P CONNECTOR	[M]
CN6003	K1MN11A00030	11P CONNECTOR	[M]
CN6004	K1MN11A00030	11P CONNECTOR	[M]
CN9003	K1MN11B00065	11P CONNECTOR	[M]
CN9102	K1MN11B00065	11P CONNECTOR	[M]
PS4001	K1MN50A00008	50P CONNECTOR	[M]
FP6501	K1MN11B00065	11P CONNECTOR	[M]
FP8031	K1MN10B00098	10P CONNECTOR	[M]
FP8101	K1MN50B00031	50P CONNECTOR	[M]
FP8271	K1MN15B00041	15P CONNECTOR	[M]
FP8501	K1MN26B00094	26P CONNECTOR	[M]
		COILS & TRANSFORMERS	
L1001	G0BR50A00001	INDUCTOR	[M] 
L1111	G0A100H00014	INDUCTOR	[M]
L1117	ELELN100KA	COIL	[M]
L1131	G0C330KA0004	COIL	[M]
L1141	G0C330KA0004	COIL	[M]
L1151	G0A220G00018	INDUCTOR	[M]
L1161	G0C101JA0019	INDUCTOR	[M]
L3501	G0C220JA0019	AXIAL INDUCTOR	[M]
L4301	G0C391JA0019	COIL	[M]
L8201	G1C100K00020	CHIP INDUCTOR	[M]
L8202	J0JCC0000079	FILTER	[M]
L8301	G1C100KA0055	CHIP INDUCTOR	[M]
L8302	J0JCC0000079	FILTER	[M]
L8420	G1C220KA0055	CHIP INDUCTOR	[M]
L8550	G1C100KA0055	CHIP INDUCTOR	[M]
T1021	ETS28AV1G3AC	SW. TRANSFORMER	[M] 
DP6501	A2BB00000124	FL DISPLAY	[M]
		OSCILLATORS	
X6001	H2D800400009	CRYSTAL	[M]
X6501	H2D800400009	CRYSTAL	[M]
X8621	H0J270500064	CRYSTAL	[M]
		DISPLAY TUBE	
FL8101	F1H0J1050022	CHIP CAPACITOR	[M]
FL8102	F1H0J1050022	CHIP CAPACITOR	[M]
FL8103	F1H0J1050022	CHIP CAPACITOR	[M]
FL8104	F1J1E1040022	CHIP CAPACITOR	[M]
		EARTH TERMINAL	

Ref. No.	Part No.	Part Name & Description	Remarks
ZA1011	VMC1359	GROUND PLATE	[M]
ZA1111	K4CZ01000027	TERMINALS	[M]
ZA4751	K4CZ01000027	TERMINALS	[M]
ZA4752	K4CZ01000027	TERMINALS	[M]
ZA4753	K4CZ01000027	TERMINALS	[M]
ZA6001	K4CZ01000027	TERMINALS	[M]
		FUSES	
F1001	K5D162AQ0004	FUSE	[M] 
		FUSE HOLDERS	
ZA1001	EYF52BC	FUSE HOLDER	[M]
ZA1002	EYF52BC	FUSE HOLDER	[M]
		FUSE PROTECTOR	
PR1171	B1ZAZ0000030	IC PROTECTOR	[M] 
		JACKS	
JK4501	K2YZ12000011	JK TERMINAL	[M]
JK4502	K2HA102B0075	JK TERMINAL	[M]
P1001	K2AB2B000002	JK AC INLET	[M] 
		CHIP RESISTORS	
W101	ERJ6GEY0R00V	0 1/10W	[M]
W303	ERJ3GEY0R00V	0 1/16W	[M]
		WIRE SECTION	
FC6601	REE1310	9P WIRE	[M]
FC6701	REE1309	3P WIRE	[M]
FC9101	RWJ4906082SS	6P FLAT CABLE	[M]
		RESISTORS	
R1001	ERDS2FJ105T	1M 1/4W	[M]
R1002	ERDS2FJ105T	1M 1/4W	[M]
R1041	ERG12SJ820E	82 1/2W	[M]
R1045	ERDS2TJ223T	22K 1/4W	[M]
R1046	ERDS2TJ100T	10 1/4W	[M]
R1051	ER0S2THF2202	22 1/4W	[M]
R1061	ERDS2TJ103T	10K 1/4W	[M]
R1062	ERDS2TJ223T	22K 1/4W	[M]
R1071	ER0S2THF8201	82 1/4W	[M]
R1081	ER0S2THF1002	10 1/4W	[M]
R1082	ER0S2THF1002	10 1/4W	[M]
R1083	ERDS2TJ102T	1K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R1084	ERDS2TJ223T	22K 1/4W	[M]
R1085	ERDS2TJ104T	100K 1/4W	[M]
R1101	ERDS2TJ750T	75 1/4W	[M]
R1102	ER0S2THF1201	12 1/4W	[M]
R1103	ER0S2THF1201	12 1/4W	[M]
R1104	ERJ6GEYJ331V	330 1/10W	[M]
R1105	ERJ3GEYJ102V	1K 1/16W	[M]
R1106	D0GB101JA002	100 1/16W	[M]
R1115	ERJ3GEYJ104V	100K 1/16W	[M]
R1116	ERJ3GEYJ102V	1K 1/16W	[M]
R1125	D0GB101JA002	100 1/16W	[M]
R1126	ERJ3RBD362V	3.6K 3W	[M]
R1127	ERJ3RBD132V	1.3K 3W	[M]
R1128	D0GB121JA002	120 1/16W	[M]
R1162	ERDS2TJ471T	470 1/4W	[M]
R1163	ERDS2TJ471T	470 1/4W	[M]
R1164	ERDS2TJ471T	470 1/4W	[M]
R1165	ERDS2TJ471T	470 1/4W	[M]
R3531	D1BB75R0A012	75 1/16W	[M]
R3532	D0GB750JA019	75 1/16W	[M]
R3533	D1BB75R0A012	75 1/16W	[M]
R3534	D1BB75R0A012	75 1/16W	[M]
R3535	D0GB750JA019	75 1/16W	[M]
R3536	D0GB750JA019	75 1/16W	[M]
R3541	ERJ3GEYJ222V	2.2K 1/16W	[M]
R3542	ERJ3GEYJ103V	10K 1/16W	[M]
R4301	D0GB152JA002	1.5K 1/16W	[M]
R4304	D0GB332JA002	3.3K 1/16W	[M]
R4305	D0GB332JA002	3.3K 1/16W	[M]
R4306	D0GB332JA002	3.3K 1/16W	[M]
R4313	ERJ3GEYJ223V	22K 1/16W	[M]
R4326	ERJ3RBD752V	7.5K 3W	[M]
R4327	ERJ3RBD752V	7.5K 3W	[M]
R4331	ERJ3RBD752V	7.5K 3W	[M]
R4332	ERJ3RBD752V	7.5K 3W	[M]
R4335	D0GB752JA008	7.5K 1/16W	[M]
R4337	D0GB752JA008	7.5K 1/16W	[M]
R4338	D0GB752JA008	7.5K 1/16W	[M]
R4339	D0GB752JA008	7.5K 1/16W	[M]
R4347	D0HB153ZA002	15K 3W	[M]
R4348	D0HB153ZA002	15K 3W	[M]
R4349	D0GB273JA002	27K 1/16W	[M]
R4350	D0GB273JA002	27K 1/16W	[M]
R4351	D0GB273JA002	27K 1/16W	[M]
R4355	D0HB153ZA002	15K 3W	[M]
R4356	D0HB153ZA002	15K 3W	[M]
R4357	ERJ3GEYJ473V	47K 1/16W	[M]
R4362	ERJ3GEYJ103V	10K 1/16W	[M]
R4422	ERJ3GEYJ473V	47K 1/16W	[M]
R4423	ERJ3GEYJ473V	47K 1/16W	[M]
R4424	ERJ3GEYJ473V	47K 1/16W	[M]
R4427	ERJ3GEYJ473V	47K 1/16W	[M]
R4428	D0GB821JA002	820 1/16W	[M]
R4429	D0GB821JA002	820 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R4432	ERJ3GEYJ473V	47K 1/16W	[M]
R4433	ERJ3GEYJ473V	47K 1/16W	[M]
R4434	ERJ3GEYJ473V	47K 1/16W	[M]
R4435	ERJ3GEYJ473V	47K 1/16W	[M]
R4439	D0GB821JA002	820 1/16W	[M]
R4440	D0GB821JA002	820 1/16W	[M]
R4441	D0GB821JA002	820 1/16W	[M]
R4442	D0GB821JA002	820 1/16W	[M]
R4443	D0GB821JA002	820 1/16W	[M]
R4444	D0GB821JA002	820 1/16W	[M]
R4446	D0GB821JA002	820 1/16W	[M]
R4447	D0GB821JA002	820 1/16W	[M]
R4448	D0GB821JA002	820 1/16W	[M]
R4450	D0GB821JA002	820 1/16W	[M]
R4451	D0GB821JA002	820 1/16W	[M]
R4452	D0GB821JA002	820 1/16W	[M]
R4453	D0GB821JA002	820 1/16W	[M]
R4454	D0GB821JA002	820 1/16W	[M]
R4459	ERJ3GEYJ221V	220 1/16W	[M]
R4460	ERJ3GEYJ221V	220 1/16W	[M]
R4461	ERJ3GEYJ221V	220 1/16W	[M]
R4462	ERJ3GEYJ221V	220 1/16W	[M]
R4463	ERJ3GEYJ221V	220 1/16W	[M]
R4464	ERJ3GEYJ221V	220 1/16W	[M]
R4465	ERJ3GEYJ221V	220 1/16W	[M]
R4467	ERJ3GEYJ221V	220 1/16W	[M]
R4511	ERJ3GEYJ102V	1K 1/16W	[M]
R4512	ERJ3GEYJ102V	1K 1/16W	[M]
R4513	ERJ3GEYJ102V	1K 1/16W	[M]
R4514	ERJ3GEYJ221V	220 1/16W	[M]
R4515	D0GB750JA019	75 1/16W	[M]
R4516	ERJ3GEYJ103V	10K 1/16W	[M]
R4902	ERJ6GEYJ331V	330 1/10W	[M]
R4903	ERJ6GEYJ331V	330 1/10W	[M]
R6011	ERJ3GEYJ473V	47K 1/16W	[M]
R6012	ERJ3GEYJ331V	330 1/16W	[M]
R6021	ERJ3GEYJ103V	10K 1/16W	[M]
R6022	ERJ3GEYJ103V	10K 1/16W	[M]
R6023	ERJ3GEYJ103V	10K 1/16W	[M]
R6024	ERJ3GEY0R00V	0 1/16W	[M]
R6025	ERJ3GEY0R00V	0 1/16W	[M]
R6026	ERJ3GEY0R00V	0 1/16W	[M]
R6061	ERJ3GEYJ331V	330 1/16W	[M]
R6062	ERJ3GEYJ472V	4.7K 1/16W	[M]
R6063	ERJ3GEYJ103V	10K 1/16W	[M]
R6064	ERJ3GEYJ331V	330 1/16W	[M]
R6065	ERJ3GEYJ331V	330 1/16W	[M]
R6067	ERJ3GEYJ331V	330 1/16W	[M]
R6068	ERJ3GEYJ472V	4.7K 1/16W	[M]
R6069	ERJ3GEYJ103V	10K 1/16W	[M]
R6070	D0GB151JA008	150 1/16W	[M]
R6071	D0GB121JA002	120 1/16W	[M]
R6072	ERJ3GEYJ223V	22K 1/16W	[M]
R6073	ERJ3GEYJ223V	22K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R6074	ERJ3GEYJ472V	4.7K 1/16W	[M]
R6075	ERJ3GEYJ104V	100K 1/16W	[M]
R6076	D0GB393JA002	39K 1/16W	[M]
R6077	D0GB272JA002	2.7K 1/16W	[M]
R6092	ERJ3GEYJ103V	10K 1/16W	[M]
R6093	ERJ3GEYJ103V	10K 1/16W	[M]
R6094	ERJ3GEYJ103V	10K 1/16W	[M]
R6095	ERJ3GEYJ103V	10K 1/16W	[M]
R6510	ERJ3GEYJ103V	10K 1/16W	[M]
R6520	ERJ3GEYJ103V	10K 1/16W	[M]
R6521	D0GB821JA002	820 1/16W	[M]
R6522	ERJ3GEYJ102V	1K 1/16W	[M]
R6523	D0GB122JA019	1.2K 1/16W	[M]
R6530	ERJ3GEYJ103V	10K 1/16W	[M]
R6531	D0GB821JA002	820 1/16W	[M]
R6532	ERJ3GEYJ102V	1K 1/16W	[M]
R6551	ERJ3GEYJ220V	22 1/16W	[M]
R6552	ERJ3GEYJ220V	22 1/16W	[M]
R6571	ERJ3GEYJ822V	8.2K 1/16W	[M]
R6572	ERJ3GEYJ104V	100K 1/16W	[M]
R6573	ERJ3GEYJ473V	47K 1/16W	[M]
R6574	ERJ3GEYJ473V	47K 1/16W	[M]
R6575	ERJ3GEYJ473V	47K 1/16W	[M]
R6576	ERJ3GEYJ473V	47K 1/16W	[M]
R6577	ERJ3GEYJ473V	47K 1/16W	[M]
R6578	ERJ3GEYJ473V	47K 1/16W	[M]
R6611	D0GB821JA002	820 1/16W	[M]
R6612	ERJ3GEYJ102V	1K 1/16W	[M]
R6613	D0GB122JA019	1.2K 1/16W	[M]
R6614	D0GB152JA002	1.5K 1/16W	[M]
R6615	ERJ3GEYJ182V	1.8K 1/16W	[M]
R6616	ERJ3GEYJ222V	2.2K 1/16W	[M]
R6617	D0GB332JA002	3.3K 1/16W	[M]
R6618	ERJ3GEYJ472V	4.7K 1/16W	[M]
R6641	ERJ3GEYJ221V	220 1/16W	[M]
R6642	ERJ3GEYJ221V	220 1/16W	[M]
R6643	ERJ3GEYJ221V	220 1/16W	[M]
R6644	ERJ3GEYJ221V	220 1/16W	[M]
R6645	ERJ3GEYJ221V	220 1/16W	[M]
R6646	ERJ3GEYJ221V	220 1/16W	[M]
R6721	D0GB152JA002	1.5K 1/16W	[M]
R6722	ERJ3GEYJ182V	1.8K 1/16W	[M]
R6723	ERJ3GEYJ222V	2.2K 1/16W	[M]
R6724	D0GB332JA002	3.3K 1/16W	[M]
R6725	ERJ3GEYJ472V	4.7K 1/16W	[M]
R6726	ERJ3GEYJ682V	6.8K 1/16W	[M]
R6731	D0GB122JA019	1.2K 1/16W	[M]
R6732	D0GB152JA002	1.5K 1/16W	[M]
R6733	ERJ3GEYJ182V	1.8K 1/16W	[M]
R6734	ERJ3GEYJ222V	2.2K 1/16W	[M]
R6735	D0GB332JA002	3.3K 1/16W	[M]
R6736	ERJ3GEYJ472V	4.7K 1/16W	[M]
R8011	ERJ3GEY0R00V	0 1/16W	[M]
R8021	ERJ2GEJ103X	10K 2W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R8022	ERJ2GEJ103X	10K 2W	[M]
R8023	ERJ2GEJ473X	47K 2W	[M]
R8041	ERJ2GEJ330X	33 2W	[M]
R8232	ERJ2GEJ103X	10K 2W	[M]
R8233	ERJ3GEYJ153V	15K 1/16W	[M]
R8235	ERJ3GEYJ822V	8.2K 1/16W	[M]
R8236	ERJ3GEYJ822V	8.2K 1/16W	[M]
R8241	ERJ3GEYJ223V	22K 1/16W	[M]
R8242	D0GB752JA008	7.5K 1/16W	[M]
R8251	D0GF6R8JA017	6.8 1/16W	[M]
R8271	ERJ14YKR39H	0.39 1/4W	[M]
R8281	D0GB101JA002	100 1/16W	[M]
R8282	D0GB101JA002	100 1/16W	[M]
R8311	ERJ3RBD242V	2.4K 3W	[M]
R8312	ERJ3RBD102V	1K 3W	[M]
R8313	ERJ3RBD243V	24K 3W	[M]
R8314	ERJ3GEY0R00V	0 1/16W	[M]
R8315	ERJ3GEYJ6R8V	6.8 1/16W	[M]
R8321	ERJ3RBD161V	160 3W	[M]
R8322	ERJ3RED100V	10 3W	[M]
R8325	ERJ3RBD161V	160 3W	[M]
R8326	ERJ3GEY0R00V	0 1/16W	[M]
R8331	ERJ3RBD161V	160 3W	[M]
R8332	ERJ3RED100V	10 3W	[M]
R8335	ERJ3RED820V	82 3W	[M]
R8341	ERJ3RED820V	82 3W	[M]
R8401	ERJ2GEJ473X	47K 2W	[M]
R8402	ERJ2GEJ101X	100 2W	[M]
R8403	ERJ2GEJ101X	100 2W	[M]
R8404	ERJ2GEJ101X	100 2W	[M]
R8420	ERJ3GEYJ222V	2.2K 1/16W	[M]
R8451	ERJ3GEY0R00V	0 1/16W	[M]
R8501	ERJ3GEY0R00V	0 1/16W	[M]
R8550	D0GB752JA008	7.5K 1/16W	[M]
R8551	ERJ3GEY0R00V	0 1/16W	[M]
R8552	ERJ3GEYJ331V	330 1/16W	[M]
R8553	ERJ3GEYJ102V	1K 1/16W	[M]
R8554	ERJ3GEYJ220V	22 1/16W	[M]
R8555	ERJ3GEYJ2R2V	2.2 1/16W	[M]
R8556	D0GB560JA002	56 1/16W	[M]
R8557	ERJ3GEYJ510V	51 1/16W	[M]
R8558	ERJ3GEYJ473V	47K 1/16W	[M]
R8559	ERJ3GEYJ153V	15K 1/16W	[M]
R8560	ERJ3GEYJ102V	1K 1/16W	[M]
R8561	ERJ3GEY0R00V	0 1/16W	[M]
R8562	ERJ3GEYJ331V	330 1/16W	[M]
R8563	ERJ3GEYJ102V	1K 1/16W	[M]
R8564	D0GB100JA002	10 1/16W	[M]
R8565	ERJ3GEYJ2R2V	2.2 1/16W	[M]
R8566	D0GB560JA002	56 1/16W	[M]
R8567	ERJ3GEYJ510V	51 1/16W	[M]
R8568	ERJ3GEYJ473V	47K 1/16W	[M]
R8569	ERJ3GEYJ123V	12K 1/16W	[M]
R8570	ERJ3GEYJ104V	100K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R8601	ERJ3GEYJ102V	1K 1/16W	[M]
R8605	ERJ3GEYJ104V	100K 1/16W	[M]
R8606	ERJ3GEYJ103V	10K 1/16W	[M]
R8611	ERJ2GEJ101X	100 2W	[M]
R8621	D0GB105JA002	1M 1/16W	[M]
R8622	ERJ3RBD471V	470 3W	[M]
K3503	ERJ3GEY0R00V	0 1/16W	[M]
K3504	ERJ3GEY0R00V	0 1/16W	[M]
K3505	ERJ3GEY0R00V	0 1/16W	[M]
K3506	ERJ3GEY0R00V	0 1/16W	[M]
K3507	ERJ3GEY0R00V	0 1/16W	[M]
K3508	ERJ3GEY0R00V	0 1/16W	[M]
K4912	ERJ3GEY0R00V	0 1/16W	[M]
K6091	ERJ3GEY0R00V	0 1/16W	[M]
K6591	ERJ6GEY0R00V	0 1/10W	[M]
K8001	ERJ2GE0R00X	0 2W	[M]
K8006	ERJ2GE0R00X	0 2W	[M]
K8100	ERJ3GEY0R00V	0 1/16W	[M]
K8321	ERJ2GE0R00X	0 2W	[M]
K8325	ERJ2GE0R00X	0 2W	[M]
K8331	ERJ2GE0R00X	0 2W	[M]
K8335	ERJ2GE0R00X	0 2W	[M]
K8341	ERJ2GE0R00X	0 2W	[M]
K8421	ERJ3GEY0R00V	0 1/16W	[M]
K8651	ERJ2GE0R00X	0 2W	[M]
RA8011	EXB28V820JX	CHIP RESISTOR	[M]
RA8012	EXB28V820JX	CHIP RESISTOR	[M]
RA8013	EXB28V820JX	CHIP RESISTOR	[M]
RA8014	EXB28V820JX	CHIP RESISTOR	[M]
RA8015	EXB24V220JX	CHIP RESISTOR	[M]
RA8016	EXB28V820JX	CHIP RESISTOR	[M]
RA8017	EXB28V820JX	CHIP RESISTOR	[M]
RA8018	EXB28V820JX	CHIP RESISTOR	[M]
RA8021	EXB24V103JX	CHIP RESISTOR	[M]
RA8031	EXB24V472JX	CHIP RESISTOR	[M]
RA8032	EXB24V472JX	CHIP RESISTOR	[M]
RA8271	EXB24V103JX	CHIP RESISTOR	[M]
RA8401	EXB24V101JX	CHIP RESISTOR	[M]
RA8402	EXB24V101JX	CHIP RESISTOR	[M]
RA8501	EXB24V560JX	CHIP RESISTOR	[M]
RA8502	EXB28V560JX	CHIP RESISTOR	[M]
RA8503	EXB24V560JX	CHIP RESISTOR	[M]
RA8504	EXB24V560JX	CHIP RESISTOR	[M]
RA8611	EXB24V472JX	CHIP RESISTOR	[M]
		CAPACITORS	
C1001	ECQU2A104MLC	0.1 100V	[M]
C1002	ECQU2A104MLC	0.1 100V	[M]
C1003	ECKMNA102MEV	1000P 10V	[M]
C1004	ECKMNA222MEV	2200 10V	[M]
C1011	ECA2VHG470E	47 350V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1021	F1B3A122A009	1200P 1000V	[M]
C1041	F2A1H5600009	56P 50V	[M]
C1045	F2A1E470A002	47P 25V	[M]
C1051	ECQB1H101KF4	100P 50V	[M]
C1061	ECQB1H271KF4	270P 50V	[M]
C1071	ECQB1H822JF4	8200P 50V	[M]
C1081	ECQB1H102JF4	1000P 50V	[M]
C1082	ECQB1H104JF4	0.1 50V	[M]
C1083	F2A1H1010002	100P 50V	[M]
C1101	ECQV1H104JL2	0.1 50V	[M]
C1111	F2A1A1020056	1000P 10V	[M]
C1112	F2A1A102A206	1000P 10V	[M]
C1115	ECUV1C104ZfV	0.1 16V	[M]
C1116	F2A1A221A206	220P 10V	[M]
C1117	F2A0J102A247	1000P 6.3V	[M]
C1121	F2A0J1020045	1000P 6.3V	[M]
C1125	ECUV1C104ZfV	0.1 16V	[M]
C1126	ECJ1VB1H102K	1000P 50V	[M]
C1127	F2A0J102A247	1000P 6.3V	[M]
C1141	F2A1E1010067	100P 25V	[M]
C1151	F2A1E3310051	330P 25V	[M]
C1153	F2A1E331A205	330P 25V	[M]
C1154	F2A1C221A236	220P 16V	[M]
C1155	F2A1C221A236	220P 16V	[M]
C1156	ECUVNC104KBV	0.1 16V	[M]
C1157	ECUVNC104KBV	0.1 16V	[M]
C1161	F2A1H2200032	22P 50V	[M]
C1171	F2A1A1010072	100P 10V	[M]
C3501	F2A0J221A245	220P 6.3V	[M]
C3502	ECJ1VF1H103Z	0.01 50V	[M]
C3503	ECJ1VB1H103K	0.01 50V	[M]
C3504	ECUVNC104KBV	0.1 16V	[M]
C3505	F2A1H220A236	22P 50V	[M]
C3507	ECUVNC104KBV	0.1 16V	[M]
C3511	F1H0J1050013	1 6.3V	[M]
C3512	F1H0J1050013	1 6.3V	[M]
C3516	ECJ1VF1H103Z	0.01 50V	[M]
C3517	F2A0J102A247	1000P 6.3V	[M]
C3519	F2A0J102A247	1000P 6.3V	[M]
C3521	F2A0J102A247	1000P 6.3V	[M]
C3523	F2A0J331A247	330P 6.3V	[M]
C3524	F2A0J331A247	330P 6.3V	[M]
C3531	ECJ1VB1H103K	0.01 50V	[M]
C4302	ECQV1H104JL3	0.1 50V	[M]
C4312	F2A1A102A206	1000P 10V	[M]
C4313	ECUV1C104ZfV	0.1 16V	[M]
C4314	ECUV1C104ZfV	0.1 16V	[M]
C4315	ECUV1C104ZfV	0.1 16V	[M]
C4316	ECUV1C104ZfV	0.1 16V	[M]
C4317	ECUV1C104ZfV	0.1 16V	[M]
C4318	ECUV1C104ZfV	0.1 16V	[M]
C4319	ECUV1C104ZfV	0.1 16V	[M]
C4320	ECUV1C104ZfV	0.1 16V	[M]
C4321	ECUV1C104ZfV	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C4323	F2A1H221A236	220P 50V	[M]
C4324	F2A1H221A236	220P 50V	[M]
C4331	ECJ1VC1H820J	82P 50V	[M]
C4332	ECJ1VC1H820J	82P 50V	[M]
C4333	ECJ1VC1H820J	82P 50V	[M]
C4334	ECJ1VC1H820J	82P 50V	[M]
C4335	ECJ1VC1H820J	82P 50V	[M]
C4336	ECJ1VC1H820J	82P 50V	[M]
C4337	ECJ1VC1H820J	82P 50V	[M]
C4338	ECJ1VC1H680J	68P 50V	[M]
C4339	ECUV1C104ZFV	0.1 16V	[M]
C4340	F2A1H221A236	220P 50V	[M]
C4341	ECQV1H104JL3	0.1 50V	[M]
C4403	ECUV1C104ZFV	0.1 16V	[M]
C4414	F2A1E470A205	47P 25V	[M]
C4415	F2A1E470A205	47P 25V	[M]
C4416	F2A1E470A205	47P 25V	[M]
C4417	F2A1E470A205	47P 25V	[M]
C4419	F2A1E470A205	47P 25V	[M]
C4420	F2A1E470A205	47P 25V	[M]
C4421	F2A1E470A205	47P 25V	[M]
C4422	F2A1E470A205	47P 25V	[M]
C4423	ECJ1VC1H102J	1000P 50V	[M]
C4424	ECJ1VC1H102J	1000P 50V	[M]
C4425	ECJ1VC1H102J	1000P 50V	[M]
C4426	ECJ1VC1H102J	1000P 50V	[M]
C4427	ECJ1VC1H102J	1000P 50V	[M]
C4428	ECJ1VC1H102J	1000P 50V	[M]
C4429	ECJ1VC1H102J	1000P 50V	[M]
C4430	ECJ1VC1H102J	1000P 50V	[M]
C4431	ECUV1C104ZFV	0.1 16V	[M]
C4432	ECUV1C104ZFV	0.1 16V	[M]
C4511	ECUV1C104ZFV	0.1 16V	[M]
C4512	F2A1E470A205	47P 25V	[M]
C4513	F2A1E470A205	47P 25V	[M]
C4514	F2A0J470A179	47P 6.3V	[M]
C4586	ECUV1C104ZFV	0.1 16V	[M]
C4587	ECUV1C104ZFV	0.1 16V	[M]
C4588	ECUV1C104ZFV	0.1 16V	[M]
C4589	ECUV1C104ZFV	0.1 16V	[M]
C4924	F2A1H221A236	220P 50V	[M]
C4934	F2A1H221A236	220P 50V	[M]
C6001	F2A0J221A245	220P 6.3V	[M]
C6002	ECUV1C104ZFV	0.1 16V	[M]
C6011	F2A0J221A245	220P 6.3V	[M]
C6012	ECUV1C104ZFV	0.1 16V	[M]
C6041	ECJ1VC1H331K	330P 50V	[M]
C6042	ECJ1VC1H331K	330P 50V	[M]
C6061	F2A1E470A205	47P 25V	[M]
C6062	ECUV1C104ZFV	0.1 16V	[M]
C6063	F2A1E470A205	47P 25V	[M]
C6064	ECUV1C104ZFV	0.1 16V	[M]
C6501	ECEA0JKS470I	47 6.3V	[M]
C6502	ECJ2VF1C104Z	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C6503	ECEA1VKS100I	10 35V	[M]
C6504	ECJ1VF1H103Z	0.01 50V	[M]
C6508	ECUV1C104ZFV	0.1 16V	[M]
C6511	ECJ1VF1H103Z	0.01 50V	[M]
C6521	ECJ1VF1H103Z	0.01 50V	[M]
C6531	ECJ1VF1H103Z	0.01 50V	[M]
C6551	F2A0J470A245	47P 6.3V	[M]
C6571	ECJ1VF1H103Z	0.01 50V	[M]
C8001	EEEF0J101P	100P 6.3V	[M]
C8002	EEE0GA331WP	330P 4V	[M]
C8003	ECJ1VB1H222K	2200P 50V	[M]
C8004	ECJ0EF1C104Z	0.1 16V	[M]
C8005	ECJ1ZF1C104Z	0.1 16V	[M]
C8006	ECJ1ZF1C104Z	0.1 16V	[M]
C8007	ECJ0EF1C104Z	0.1 16V	[M]
C8008	ECJ1ZF1C104Z	0.1 16V	[M]
C8009	ECJ1ZF1C104Z	0.1 16V	[M]
C8010	ECJ0EF1C104Z	0.1 16V	[M]
C8011	F1H0J1050013	1 6.3V	[M]
C8012	ECJ1ZF1C104Z	0.1 16V	[M]
C8013	ECJ1ZF1C104Z	0.1 16V	[M]
C8014	ECJ1ZF1C104Z	0.1 16V	[M]
C8015	F1H0J1050013	1 6.3V	[M]
C8016	F1H0J1050013	1 6.3V	[M]
C8017	ECJ0EF1C104Z	0.1 16V	[M]
C8018	ECJ0EF1C104Z	0.1 16V	[M]
C8019	F1H0J1050013	1 6.3V	[M]
C8020	ECJ0EF1C104Z	0.1 16V	[M]
C8021	ECJ0EF1C104Z	0.1 16V	[M]
C8022	ECJ1ZF1C104Z	0.1 16V	[M]
C8023	F1H0J1050013	1 6.3V	[M]
C8024	ECJ1VB1H222K	2200P 50V	[M]
C8025	ECJ1ZF1C104Z	0.1 16V	[M]
C8026	F1H0J1050013	1 6.3V	[M]
C8027	ECJ0EF1C104Z	0.1 16V	[M]
C8028	F1H0J1050013	1 6.3V	[M]
C8031	ECJ1ZF1C104Z	0.1 16V	[M]
C8051	F1H0J1050013	1 6.3V	[M]
C8052	ECJ0EF1C104Z	0.1 16V	[M]
C8053	ECJ1VC1H221J	220P 50V	[M]
C8054	F1H0J1050013	1 6.3V	[M]
C8055	F1H0J1050013	1 6.3V	[M]
C8056	ECJ0EF1C104Z	0.1 16V	[M]
C8057	ECJ1VB1H222K	2200P 50V	[M]
C8111	ECUVNC104KBV	0.1 16V	[M]
C8112	ECJ2FB1A105K	1 10V	[M]
C8113	ECJ1VC1H471J	470P 50V	[M]
C8201	EEE0JA101WR	100P 6.3V	[M]
C8202	EEEF0J101P	100P 6.3V	[M]
C8203	ECJ1ZF1C104Z	0.1 16V	[M]
C8204	ECJ1ZF1C104Z	0.1 16V	[M]
C8205	ECJ1ZF1C104Z	0.1 16V	[M]
C8206	F1H0J1050013	1 6.3V	[M]
C8207	ECJ1ZF1C104Z	0.1 16V	[M]

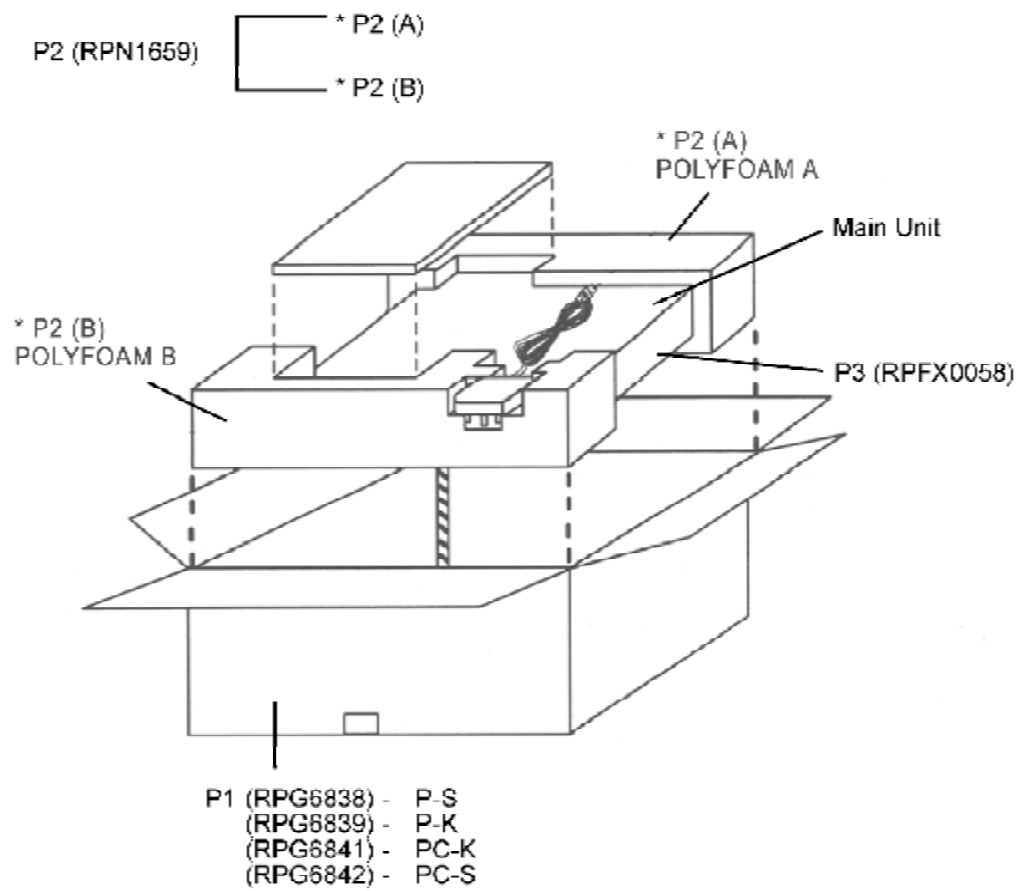
Ref. No.	Part No.	Part Name & Description	Remarks
C8208	ECJ1ZF1C104Z	0.1 16V	[M]
C8211	ECJ1VB1C333K	0.033 16V	[M]
C8212	ECJ1ZF1C104Z	0.1 16V	[M]
C8213	ECJ1ZF1C104Z	0.1 16V	[M]
C8214	ECJ1ZF1C104Z	0.1 16V	[M]
C8215	ECJ1VB1H562K	5600P 50V	[M]
C8216	ECJ1VB1C183K	0.018 16V	[M]
C8217	F1H0J1050013	1 6.3V	[M]
C8218	F1H0J1050013	1 6.3V	[M]
C8221	ECUVNC104KBV	0.1 16V	[M]
C8222	ECUVNC104KBV	0.1 16V	[M]
C8223	ECUVNC104KBV	0.1 16V	[M]
C8224	ECUVNC104KBV	0.1 16V	[M]
C8225	ECJ1ZF1C104Z	0.1 16V	[M]
C8226	ECJ1ZF1C104Z	0.1 16V	[M]
C8227	ECJ1ZF1C104Z	0.1 16V	[M]
C8228	ECJ2FB1A105K	1 10V	[M]
C8229	ECJ2FB1A105K	1 10V	[M]
C8232	ECJ1ZF1C104Z	0.1 16V	[M]
C8233	ECJ1VB1H472K	4700P 50V	[M]
C8234	ECJ1ZF1C104Z	0.1 16V	[M]
C8235	ECJ1VC1H102J	1000P 50V	[M]
C8236	ECJ1VC1H102J	1000P 50V	[M]
C8237	ECJ1VC1H102J	1000P 50V	[M]
C8238	ECJ1VC1H821J	820P 50V	[M]
C8241	ECUVNC104KBV	0.1 16V	[M]
C8242	ECUVNC104KBV	0.1 16V	[M]
C8251	EEEF0J221P	220P 6.3V	[M]
C8252	EEE1CA220WR	22P 16V	[M]
C8253	ECJ1ZF1C104Z	0.1 16V	[M]
C8254	ECJ1ZF1C104Z	0.1 16V	[M]
C8255	ECJ1ZF1C104Z	0.1 16V	[M]
C8261	ECJ1ZF1C104Z	0.1 16V	[M]
C8271	EEEF0C470P	47P 16V	[M]
C8272	EEE0JA330WR	33P 6.3V	[M]
C8273	ECJ1ZF1C104Z	0.1 16V	[M]
C8274	ECJ1ZF1C104Z	0.1 16V	[M]
C8275	ECJ1ZF1C104Z	0.1 16V	[M]
C8284	ECJ1VB1H103K	0.01 50V	[M]
C8285	ECJ1VB1H103K	0.01 50V	[M]
C8286	ECJ1VB1H103K	0.01 50V	[M]
C8287	ECUVNC104KBV	0.1 16V	[M]
C8288	ECJ1ZF1C104Z	0.1 16V	[M]
C8301	EEE0JA221WP	220P 6.3V	[M]
C8302	EEE0JA330WR	33P 6.3V	[M]
C8303	ECJ1ZF1C104Z	0.1 16V	[M]
C8304	F1H0J1050013	1 6.3V	[M]
C8307	ECJ1ZF1C104Z	0.1 16V	[M]
C8311	ECJ1ZF1C104Z	0.1 16V	[M]
C8312	F1H0J1050013	1 6.3V	[M]
C8400	ECJ1VC1H150J	15P 50V	[M]
C8420	F2G0J331A015	330P 6.3V	[M]
C8423	ECJ1ZF1C104Z	0.1 16V	[M]
C8424	ECJ1ZF1C104Z	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C8451	F3F1A106A001	10 10V	[M]
C8452	F3F1A106A001	10 10V	[M]
C8453	F3F1A106A001	10 10V	[M]
C8455	ECJ0EF1C104Z	0.1 16V	[M]
C8456	ECJ1ZF1C104Z	0.1 16V	[M]
C8461	F2G0J101A015	100P 6.3V	[M]
C8462	ECJ1ZF1C104Z	0.1 16V	[M]
C8501	F1K1A1060017	10 10V	[M]
C8502	ECJ1ZF1C104Z	0.1 16V	[M]
C8503	ECJ1ZF1C104Z	0.1 16V	[M]
C8504	ECJ1ZF1C104Z	0.1 16V	[M]
C8505	ECJ1VC1H221J	220P 50V	[M]
C8506	ECUV1H101JCV	100P 50V	[M]
C8550	EEE0JA330WR	33P 6.3V	[M]
C8551	ECJ1ZF1C104Z	0.1 16V	[M]
C8552	EEEF1C100R	10P 16V	[M]
C8553	EEE0JA470WR	47P 6.3V	[M]
C8554	F1H0J1050013	1 6.3V	[M]
C8561	ECJ1ZF1C104Z	0.1 16V	[M]
C8562	EEEF1C100R	0.P 16V	[M]
C8563	EEE0JA470WR	47P 6.3V	[M]
C8564	F1H0J1050013	1 6.3V	[M]
C8601	ECJ0EF1C104Z	0.1 16V	[M]
C8605	ECJ0EF1C104Z	0.1 16V	[M]
C8606	ECJ1VB1A224K	0.22 10V	[M]
C8611	ECJ1ZF1C104Z	0.1 16V	[M]
C8621	ECJ1VC1H390J	39P 50V	[M]
C8622	ECJ1VC1H050D	5P 50V	[M]
C8651	ECJ1ZF1C104Z	0.1 16V	[M]
C8652	ECJ1ZF1C104Z	0.1 16V	[M]
C8691	ECJ0EF1C104Z	0.1 16V	[M]
C8695	ECJ0EF1C104Z	0.1 16V	[M]

23.3. Packing Materials & Accessories Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPG6838	PACKING CASE	[M]P-S
P1	RPG6839	PACKING CASE	[M]P-K
P1	RPG6841	PACKING CASE	[M]PC-K
P1	RPG6842	PACKING CASE	[M]PC-S
P2	RPN1659	POLYFOAM	[M]
P3	RPFX0058	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	N2QAJB000092	REMOTE CONTROL	[M]
A1-1	RKK-HTR0051K	R/C BATTERY COVER	[M]
A2	RJA0065-A	AC CORD	[M] 
A3	RQT7292-P	O/I BOOK (En)	[M]
A3	RQT7293-C	O/I BOOK (Cf)	[M]PC-K/PC-S
A4	K2KA6CA00001	A/V CORD	[M]

23.4. Packaging



PRT0311 D/K/J/N/L